

Service Hints



TH-P54Z1A

Plasma Television

<PDP 2009 Model>

TH-P54Z1A, TH-P54Z1Z

TH-P54Z1M, TH-P54Z1D

TH-P54Z1R, TH-P54Z1T

TH-P54Z1N, TH-P54Z1S

TH-P54Z1P, TH-P54Z1W

TH-P54Z10H

- Ver 1.0-

Troubleshooting Guide

This service hints is published for technicians and engineers for repair. And it gives you the information how to judge the defective board of PDP. In the future, we will improve the contents for more easy diagnostic and trouble shooting.

Please file and use this Service Hints together with the main service manual and other publications related to models.

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1. 2009 PDP Z series Line up & Feature Comparison (1-inch Thinness model)

1. 2009 PDP Line up & Feature Comparison

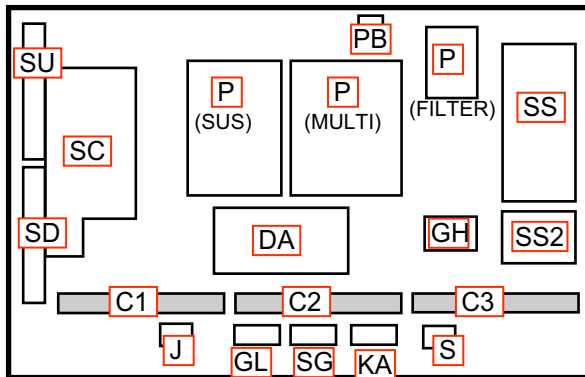
		TH-P54Z1A/Z	TH-P54Z1M//D/N/T/P/R/S/W	TH-P54Z10H	
					
Picture	Size	54	54	54	
	Panel	Full-HD NeoPDP	Full-HD NeoPDP	Full-HD NeoPDP	
	AR Filter	—	Y	Y	
	Contrast Ratio	40,000:1	40,000:1	40,000:1	
	Moving Picture Resolution	1080 lines	1080 lines	1080 lines	
	600 Hz Sub-Field Drive	Y	Y	Y	
	24p Smooth Film	Y	Y	—	
	Digital Cinema Colour	—	—	—	
	Shades of Gradation	6144	6144	6144	
	Deep Colour (10/12-bit)	Y	Y	Y	
	x.v. Colour	Y	Y	Y	
	THX Mode	Y	Y	Y	
	3D Colour Management	Y	Y	Y	
	Sub Pixel Control	Y	Y	Y	
	C.A.T.S.	Y	Y	Y	
Sound	Speakers	Woofer & Tweeter	Woofer & Tweeter	Woofer & Tweeter	
Networking	VIERA Image Viewer	Y (AVCHD/MPEG2/JPEG playback)	Y (AVCHD/MPEG2/JPEG playback)	Y (AVCHD/JPEG playback)	
	HDMI Input	4	4	4	
	PC Input	Y	Y	Y	
	VIERA Cast	—	—	—	
	VIERA Tools	Y	Y	Y	
	VIERA Link (HDAVI Control 4)	Y	Y	Y	
Included Accessories	Game Mode	Y	Y	Y	
	Remote control	RF	IR	RF	
	Wireless unit	Y	—	—	

2. PCB Location & Function (Z series)

2. PCB Location & Function

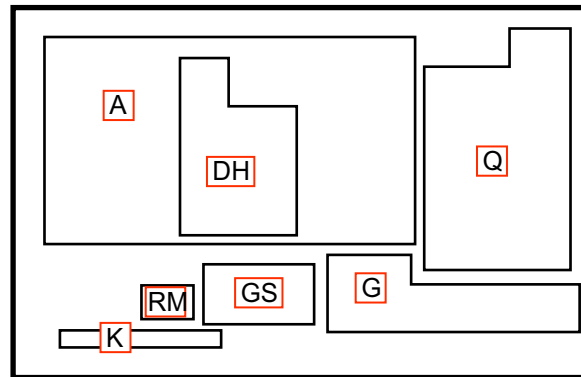
TH-P54Z1A/Z

TH-P54Z1A/Z (Display unit)



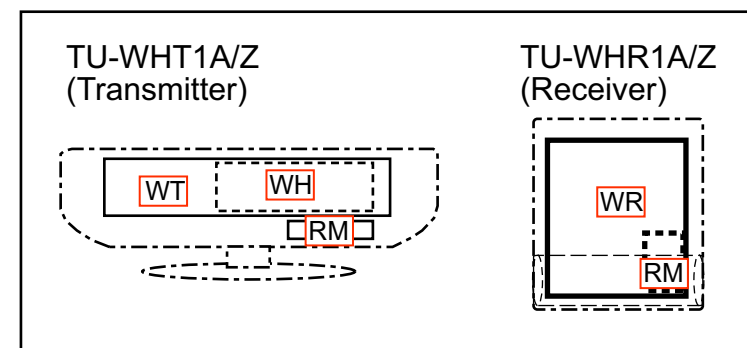
Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM718EAS
	Power Supply (MULTI)	ETX2MM718EBS
	Power Supply (Filter)	ETX2MM718ECS
DA	Digital Signal Processor	TZTNP02JWUA (for TH-P54Z1A) TZTNP02JWUP (for TH-P54Z1Z)
GH	HDMI in	TXNGH1DKUM
PB	Fan control	TNPA4864AE
S	Power Switch	TNPA4863
KA	IR Remote receiver, Power LED, C.A.T.S sensor	TNPA4862
SG	SD Card Slot	TNPA5042AB
GL	SD Blue LED	TNPA4693AF
J	Connection for Key Switch	TNPA4944
C1	Data Driver (Lower Right)	TNPA4770AC
C2	Data Driver (Lower Center)	TNPA4771AC
C3	Data Driver (Lower Left)	TNPA4772AC
SC	Scan Drive	TNPA4840AF
SU	Scan out (Upper), Not repairable. SU-Board should be exchanged for service.	TNPA4790AB
SD	Scan out (Lower), Not repairable. SD-Board should be exchanged for service.	TNPA4791AB
SS	Sustain Drive	TNPA4841AD
SS2	Sustain connector	TNPA4843

TU-Z100A/Z (Tuner Box)



Board Name	Function	Parts Number
Q	Power Supply, Not repairable. Q-Board should be exchanged for service.	N0AE2FF00001
A	Digital Signal Processor	TXN/A1JWUA (for TH-P54Z1A) TXN/A1JWUP (for TH-P54Z1Z)
DH	HDMI out	TXNDH1DKUU
G	Front Terminal	TNPA4897AC
GS	SD Card Slot, HDMI4 in	TNPA4867AC
K	Power Switch, Key Switch, Power LED, SD LED	TNPA4869AD
RM	RF in, Not repairable. RM-Board should be exchanged for service.	TXNRM1DKUW

TU-WH1A/Z (Wireless unit)



Wireless unit (Transmitter)		
Board Name	Function	Parts Number
WT	WiHD Transmitter	—
WH	WiHD Host	—
RM	RF Tx	TXNRM1JSUJ

Wireless unit (Receiver)		
Board Name	Function	Parts Number
WR	WiHD Receiver	—
RM	RF Rx	TXNRM2JSUJ

Caution

Non-serviceable.

P. C. B. should be exchanged for service.

WT board (in a transmitter), WH board (in a transmitter) and WR board (in a receiver) should be exchanged at the same time for repair because these boards are initialized security settings in a factory in order to obey a copyright protection. Repair of these three boards should be done by replacing complete unit pair

TU-WH1A:

(TRANSMISSION/RECEIVE UNIT, Part No.TZTWH01JSUAT)

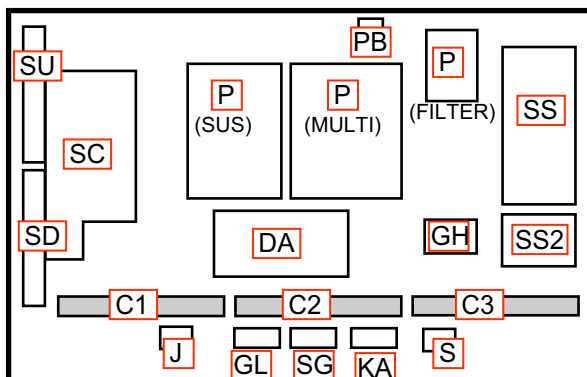
TU-WH1Z:

(TRANSMISSION/RECEIVE UNIT, Part No.TZTWH01JSUAT).

2. PCB Location & Function

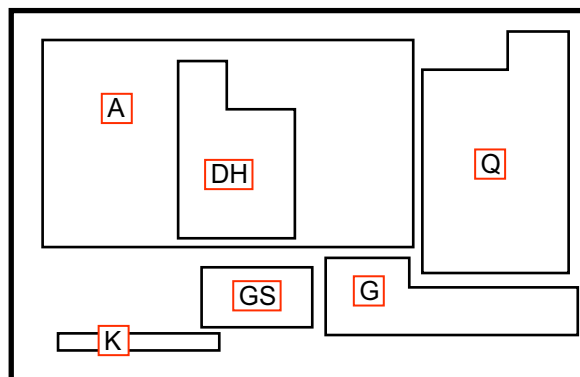
TH-P54Z1M/D/R/T/N/S

TH-P54Z1M/D/R/T/N/S (Display unit)



Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM718EAS
	Power Supply (MULTI)	ETX2MM718EBS
	Power Supply (FILTER)	ETX2MM718ECS
DA	Digital Signal Processor	TZTNP02DKUM
GH	HDMI in	TXNGH1DKUM
PB	Fan control	TNPA4864AE
S	Power Switch	TNPA4863
KA	IR Remote receiver, Power LED, C.A.T.S sensor	TNPA4862
SG	SD Card Slot	TNPA4860AB
GL	SD Blue LED	TNPA4693AF
J	Connection for Key Switch	TNPA4944
C1	Data Driver (Lower Right)	TNPA4770AC
C2	Data Driver (Lower Center)	TNPA4771AC
C3	Data Driver (Lower Left)	TNPA4772AC
SC	Scan Drive	TNPA4840AF
SU	Scan out (Upper), Not repairable. SU-Board should be exchanged for service.	TNPA4790AB
SD	Scan out (Lower), Not repairable. SD-Board should be exchanged for service.	TNPA4791AB
SS	Sustain Drive	TNPA4841AD
SS2	Sustain connector	TNPA4843

TU-Z100M/D/RN//T/S (Tuner Box)

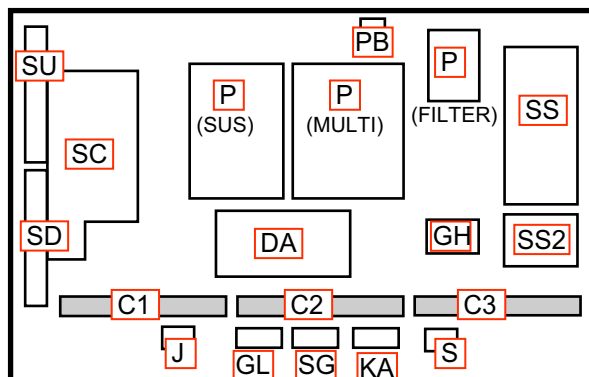


Board Name	Function	Parts Number
Q	Power Supply, Not repairable. Q-Board should be exchanged for service.	N0AE2FF00001
A	Digital Signal Processor	TXN/A1DKUM
DH	HDMI out	TXNDH1DKUU
G	Front Terminal	TNPA4897AC
GS	SD Card Slot, HDMI4 in	TNPA4867AC
K	Power Switch, Key Switch, Power LED, SD LED	TNPA4869AD

2. PCB Location & Function

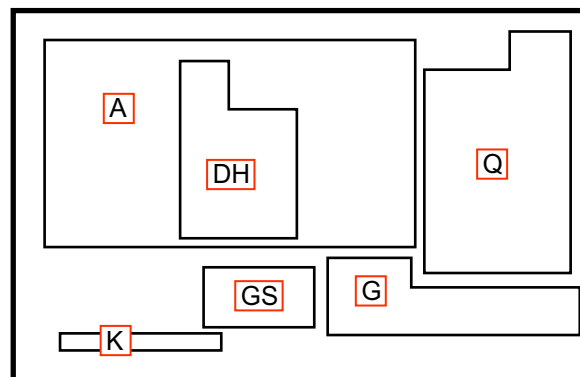
TH-P54Z1P

TH-P54Z1P (Display unit)



Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM718QAS
	Power Supply (MULTI)	ETX2MM718QBS
	Power Supply (FILTER)	ETX2MM718QCS
DA	Digital Signal Processor	TZTNP02DKUQ
GH	HDMI in	TXNGH1DKUM
PB	Fan control	TNPA4864AE
S	Power Switch	TNPA4863
KA	IR Remote receiver, Power LED, C.A.T.S sensor	TNPA4862
SG	SD Card Slot	TNPA4860AB
GL	SD Blue LED	TNPA4693AF
J	Connection for Key Switch	TNPA4944
C1	Data Driver (Lower Right)	TNPA4770AC
C2	Data Driver (Lower Center)	TNPA4771AC
C3	Data Driver (Lower Left)	TNPA4772AC
SC	Scan Drive	TNPA4840AF
SU	Scan out (Upper), Not repairable. SU-Board should be exchanged for service.	TNPA4790AB
SD	Scan out (Lower), Not repairable. SD-Board should be exchanged for service.	TNPA4791AB
SS	Sustain Drive	TNPA4841AD
SS2	Sustain connector	TNPA4843

TU-Z100P (Tuner Box)

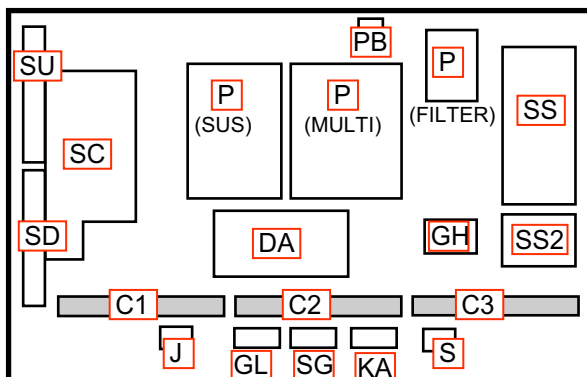


Board Name	Function	Parts Number
Q	Power Supply, Not repairable. Q-Board should be exchanged for service.	N0AE2FF00001
A	Digital Signal Processor	TXN/A1DKUQ
DH	HDMI out	TXNDH1DKUU
G	Front Terminal	TNPA4897AC
GS	SD Card Slot, HDMI4 in	TNPA4867AC
K	Power Switch, Key Switch, Power LED, SD LED	TNPA4869AD

2. PCB Location & Function

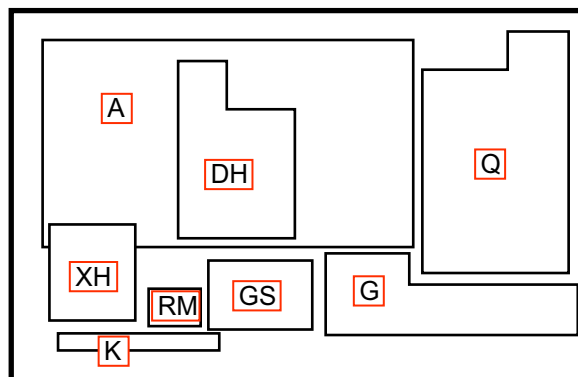
TH-P54Z10H

TH-P54Z10H (Display unit)



Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM718EAS
	Power Supply (MULTI)	ETX2MM718EBS
	Power Supply (FILTER)	ETX2MM718ECS
DA	Digital Signal Processor	TZTNP02DKUM
GH	HDMI in	TXNGH1DKUM
PB	Fan control	TNPA4864AE
S	Power Switch	TNPA4863
KA	IR Remote receiver, Power LED, C.A.T.S sensor	TNPA4862
SG	SD Card Slot	TNPA4860AB
GL	SD Blue LED	TNPA4693AF
J	Connection for Key Switch	TNPA4944
C1	Data Driver (Lower Right)	TNPA4770AC
C2	Data Driver (Lower Center)	TNPA4771AC
C3	Data Driver (Lower Left)	TNPA4772AC
SC	Scan Drive	TNPA4840AF
SU	Scan out (Upper), Not repairable. SU-Board should be exchanged for service.	TNPA4790AB
SD	Scan out (Lower), Not repairable. SD-Board should be exchanged for service.	TNPA4791AB
SS	Sustain Drive	TNPA4841AD
SS2	Sustain connector	TNPA4843

TU-Z100HR (Tuner Box)

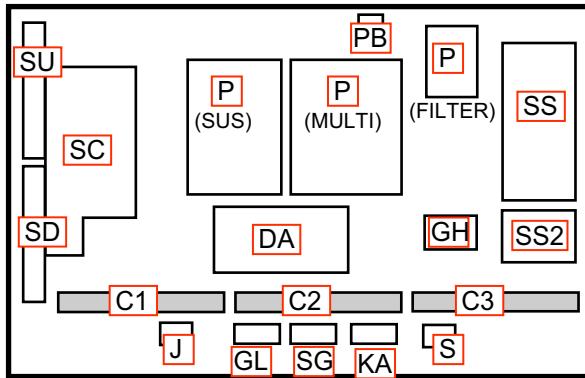


Board Name	Function	Parts Number
Q	Power Supply, Not repairable. Q-Board should be exchanged for service.	N0AE2FF00001
A	Digital Signal Processor	TXN/A1JWUW
DH	HDMI out	TXNDH1DKUU
G	Front Terminal	TNPA4897AC
GS	SD Card Slot, HDMI4 in	TNPA4867AC
K	Power Switch, Key Switch, Power LED, SD LED	TNPA4869AD
RM	RF in, Not repairable. RM-Board should be exchanged for service.	TXNRM1DKUW
XH	HK Digital tuner	TNPA4835AB

2. PCB Location & Function

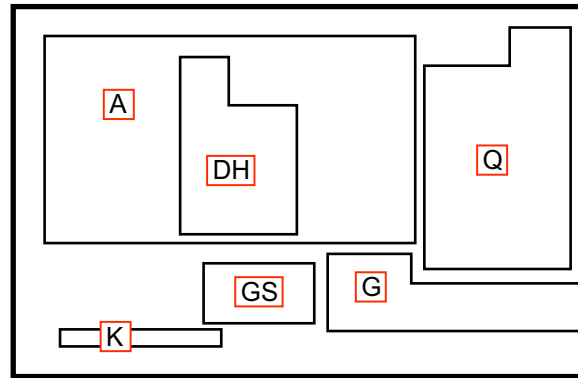
TH-P54Z1W

TH-P54Z1W (Display unit)



Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM718AAS
	Power Supply (MULTI)	ETX2MM718ABS
	Power Supply (FILTER)	ETX2MM718ACS
DA	Digital Signal Processor	TZTNP01DKUT
GH	HDMI in	TXNGH1DKUU
PB	Fan control	TNPA4864AC
S	Power Switch	TNPA4863
KA	IR Remote receiver, Power LED, C.A.T.S sensor	TNPA4862
SG	SD Card Slot	TNPA4860AB
GL	SD Blue LED	TNPA4693AF
J	Connection for Key Switch	TNPA4944
C1	Data Driver (Lower Right)	TNPA4770AC
C2	Data Driver (Lower Center)	TNPA4771AC
C3	Data Driver (Lower Left)	TNPA4772AC
SC	Scan Drive	TNPA4840AD
SU	Scan out (Upper), Not repairable. SU-Board should be exchanged for service.	TNPA4790AB
SD	Scan out (Lower), Not repairable. SD-Board should be exchanged for service.	TNPA4791AB
SS	Sustain Drive	TNPA4841AD
SS2	Sustain connector	TNPA4843

TU-Z100W (Tuner Box)



Board Name	Function	Parts Number
Q	Power Supply, Not repairable. Q-Board should be exchanged for service.	N0AE2FF00002
A	Digital Signal Processor	TZTNP02DKUT
DH	HDMI out	TXNDH1DKUU
G	Front Terminal	TXN/G1DKUU
GS	SD Card Slot, HDMI4 in	TXNGS1DKUU
K	Power Switch, Key Switch, Power LED, SD LED	TNPA4869AB

2. PCB Location & Function

3. PCB List (Z series)

3. PCB List

Display unit

Board	TH-P54Z1A	TH-P54Z1Z	TH-P54Z1 M/D/N/T/R/S	TH-P54Z1P	TH-P54Z10H	TH-P54Z1W	
P (SUS)	ETX2MM718EAS	ETX2MM718EAS	ETX2MM718EAS	ETX2MM718QAS	ETX2MM718EAS	ETX2MM718AAS	
P (MULTI)	ETX2MM718EBS	ETX2MM718EBS	ETX2MM718EBS	ETX2MM718QBS	ETX2MM718EBS	ETX2MM718ABS	
P (FILTER)	ETX2MM718ECS	ETX2MM718ECS	ETX2MM718ECS	ETX2MM718QCS	ETX2MM718ECS	ETX2MM718ACS	
DA	TZTNP02JWUA	TZTNP02JWUP	TZTNP02DKUM	TZTNP02DKUQ	TZTNP02DKUM	TZTNP01DKUT	
GH	TXNGH1DKUM	TXNGH1DKUM	TXNGH1DKUM	TXNGH1DKUM	TXNGH1DKUM	TXNGH1DKUU	
PB	TNPA4864AE	TNPA4864AE	TNPA4864AE	TNPA4864AE	TNPA4864AE	TNPA4864AC	
S	TNPA4863	TNPA4863	TNPA4863	TNPA4863	TNPA4863	TNPA4863	
KA	TNPA4862	TNPA4862	TNPA4862	TNPA4862	TNPA4862	TNPA4862	
SG	TNPA5042AB	TNPA5042AB	TNPA4860AB	TNPA4860AB	TNPA4860AB	TNPA4860AB	
GL	TNPA4693AF	TNPA4693AF	TNPA4693AF	TNPA4693AF	TNPA4693AF	TNPA4693AF	
J	TNPA4944	TNPA4944	TNPA4944	TNPA4944	TNPA4944	TNPA4944	
C1	TNPA4770AC	TNPA4770AC	TNPA4770AC	TNPA4770AC	TNPA4770AC	TNPA4770AC	
C2	TNPA4771AC	TNPA4771AC	TNPA4771AC	TNPA4771AC	TNPA4771AC	TNPA4771AC	
C3	TNPA4772AC	TNPA4772AC	TNPA4772AC	TNPA4772AC	TNPA4772AC	TNPA4772AC	
SC	TNPA4840AF	TNPA4840AF	TNPA4840AF	TNPA4840AF	TNPA4840AF	TNPA4840AD	
SU	TNPA4790AB	TNPA4790AB	TNPA4790AB	TNPA4790AB	TNPA4790AB	TNPA4790AB	
SD	TNPA4791AB	TNPA4791AB	TNPA4791AB	TNPA4791AB	TNPA4791AB	TNPA4791AB	
SS	TNPA4841AD	TNPA4841AD	TNPA4841AD	TNPA4841AD	TNPA4841AD	TNPA4841AD	
SS2	TNPA4843	TNPA4843	TNPA4843	TNPA4843	TNPA4843	TNPA4843	

3. PCB List

Tuner box

	TH-P54Z1A/Z	TH-P54Z1Z	TH-P54Z1 M/D/N/T/R/S	TH-P54Z1P	TH-P54Z10H	TH-P54Z1W	
Board	TU-Z100AR/ZR	TU-Z100ZR	TU-Z100 M/DS/T/RN	TU-Z100P	TU-Z100HR	TU-Z100W	
Q	N0AE2FF00001	N0AE2FF00001	N0AE2FF00001	N0AE2FF00001	N0AE2FF00001	N0AE2FF00002	
A	TXN/A1JWUA	TXN/A1JWUP	TXN/A1DKUM	TXN/A1DKUQ	TXN/A1JWUW	TZTNP02DKUT	
DH	TXNDH1DKUU	TXNDH1DKUU	TXNDH1DKUU	TXNDH1DKUU	TXNDH1DKUU	TXNDH1DKUU	
G	TNPA4897AC	TNPA4897AC	TNPA4897AC	TNPA4897AC	TNPA4897AC	TXN/G1DKUU	
GS	TNPA4867AC	TNPA4867AC	TNPA4867AC	TNPA4867AC	TNPA4867AC	TXNGS1DKUU	
K	TNPA4869AD	TNPA4869AD	TNPA4869AD	TNPA4869AD	TNPA4869AD	TNPA4869AB	
RM	TXNRM1DKUW	TXNRM1DKUW	----	----	TXNRM1DKUW	----	
XH	----	----	----	----	TNPA4835AB	----	

4. Block Diagram (Z series)

4. Block Diagram

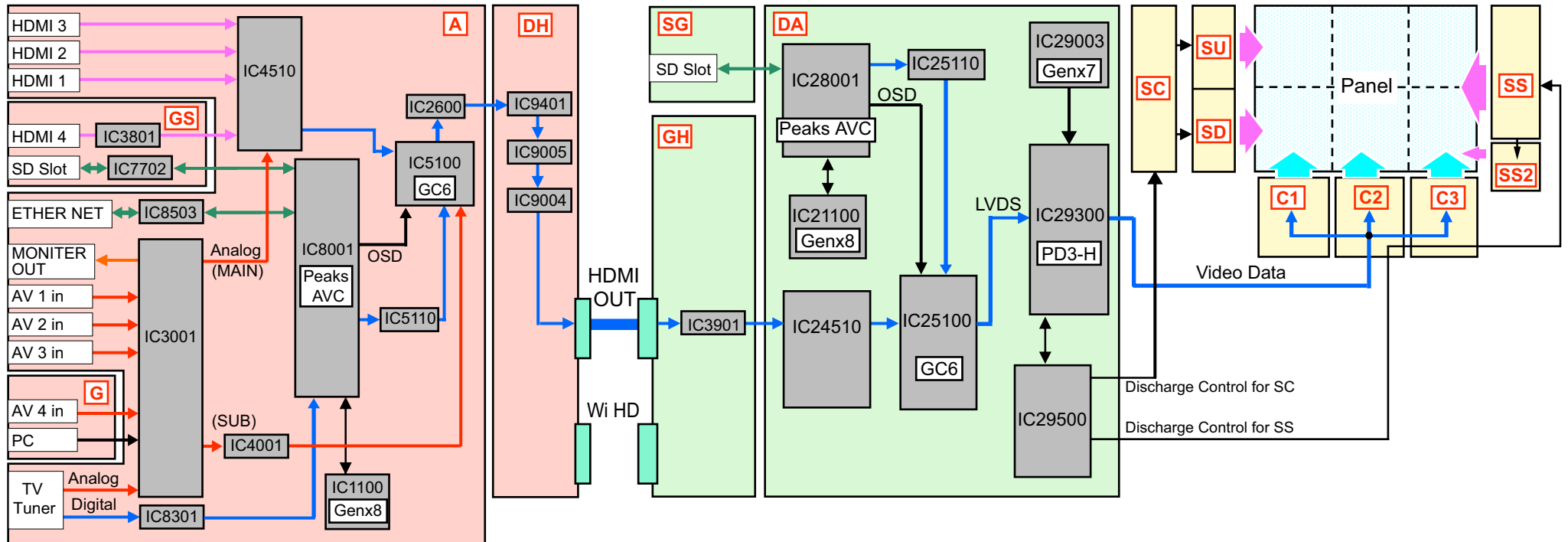
Signal Processing Circuit (1)

<PCB Function>
[Tuner box]

TH-P54Z1A/Z

[Display unit]

[e.g. TH-P54Z1A]



IC3001 : Video Switch	IC4510 : HDMI I/F, 10bit A/D	IC9401 : LVDS RX
IC8503 : ETHERNET CONTROL	IC4001 : GC3FS next	IC9005 : KYOTO
IC3801 : HDMI EQUALIZER	IC8001 : Peaks AVC (MAIN MPU+Video Processor)	IC9004 : LVDS TX
IC7702 : SD-USB CONV.	IC5110 : LVDS RX	
IC8301 : DIGITAL DEMODULATOR	IC5100 : GC6 [Video Processor IC (Format Converter) LVDS Transmitter]	
	IC2600 : FRC-Q	
	IC1100 : Genx8 (SYSTEM MPU)	

IC3901 : HDMI EQUALIZER	IC29300 : PD3-H [LVDS Receiver, Sub Field Processor, Data Driver Processor Plasma AI]
IC24510 : HDMI I/F, 10bit A/D	IC29500 : FPGA (Discharge Control)
IC25100 : GC6 Video Processor IC (Format Converter) LVDS Transmitter	IC29003 : Genx7 (Panel Micom)
IC28001 : Peaks AVC (Digital Video Processor)	
IC25110 : LVDS RX	
IC21100 : Genx8 (SYSTEM MPU)	

4. Block Diagram

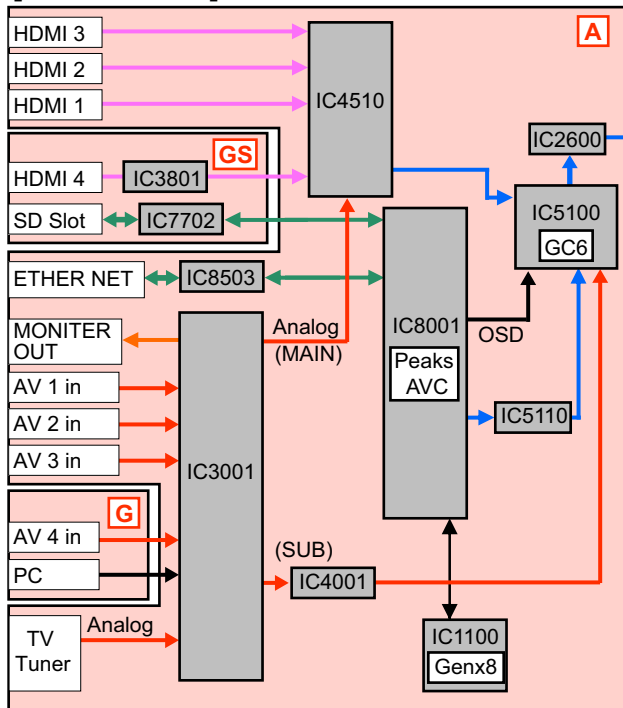
Signal Processing Circuit (2)

<PCB Function>

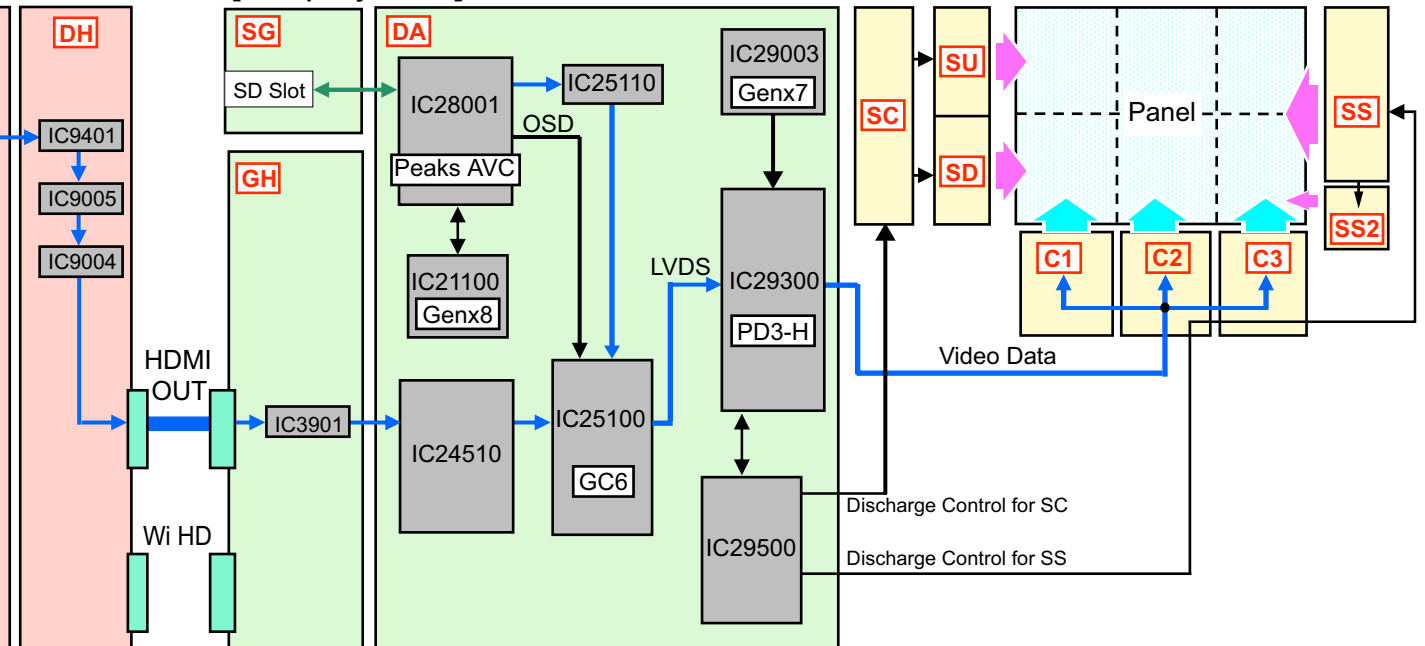
TH-P54Z1M/D/R/T/N/S

[e.g. TH-P54Z1M]

[Tuner box]



[Display unit]



IC3001 : Video Switch	IC4510 : HDMI I/F, 10bit A/D	IC9401 : LVDS RX
IC8503 : ETHERNET CONTROL	IC4001 : GC3FS next	IC9005 : KYOTO
IC3801 : HDMI EQUALIZER	IC8001 : Peaks AVC (MAIN MPU+Video Processor)	IC9004 : LVDS TX
IC7702 : SD-USB CONV.	IC5110 : LVDS RX	
	IC5100 : GC6	
	[Video Processor IC (Format Converter) LVDS Transmitter]	
	IC2600 : FRC-Q	
	IC1100 : Genx8 (SYSTEM MPU)	

IC3901 : HDMI EQUALIZER	IC29300 : PD3-H
IC24510 : HDMI I/F, 10bit A/D	[LVDS Receiver, Sub Field Processor, Data Driver Processor Plasma AI]
IC25100 : GC6	
Video Processor IC (Format Converter) LVDS Transmitter	
IC28001 : Peaks AVC (Digital Video Processor)	IC29500 : FPGA (Discharge Control)
IC25110 : LVDS RX	IC29003 : Genx7 (Panel Micom)
IC21100 : Genx8 (SYSTEM MPU)	

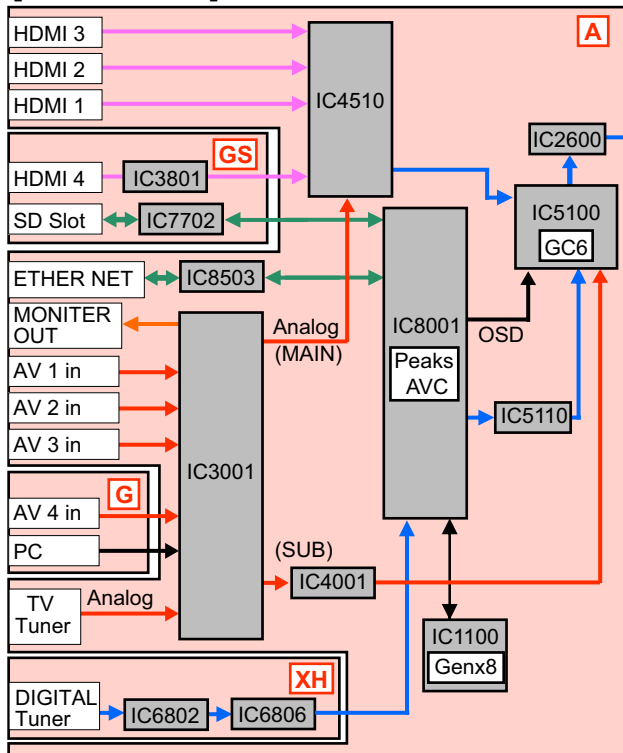
4. Block Diagram

Signal Processing Circuit (3)

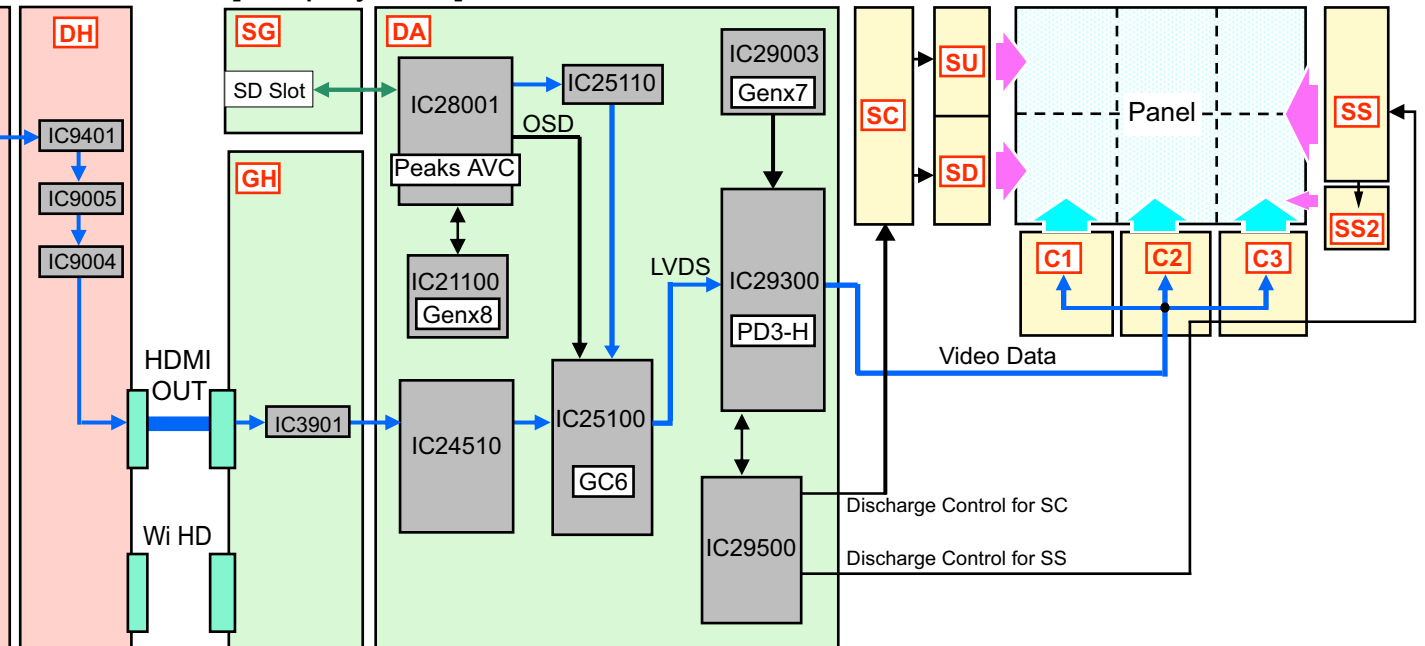
<PCB Function> TH-P54Z10H

[e.g. TH-P54Z10H]

[Tuner box]



[Display unit]



IC3001 : Video Switch	IC4510 : HDMI I/F, 10bit A/D	IC9401 : LVDS RX
IC8503 : ETHERNET CONTROL	IC4001 : GC3FS next	IC9005 : KYOTO
IC3801 : HDMI EQUALIZER	IC8001 : Peaks AVC (MAIN MPU+Video Processor)	IC9004 : LVDS TX
IC7702 : SD-USB CONV.	IC5110 : LVDS RX	
IC6802 : FE	IC5100 : GC6	
IC6806 : BUFFER	IC2600 : FRC-Q	
	IC1100 : Genx8 (SYSTEM MPU)	
	[Video Processor IC (Format Converter)] : LVDS Transmitter	

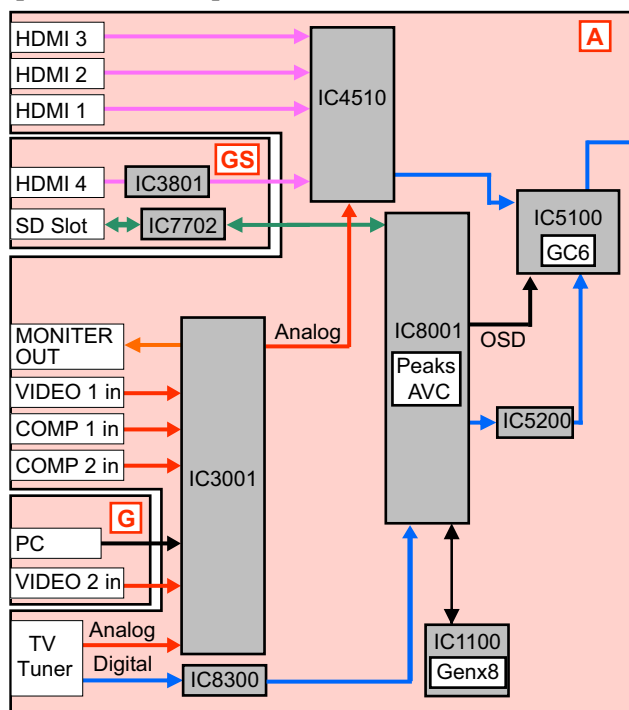
IC3901 : HDMI EQUALIZER	IC29300 : PD3-H
IC24510 : HDMI I/F, 10bit A/D	[LVDS Receiver, Sub Field Processor, Data Driver Processor Plasma AI]
IC25100 : GC6	
IC25110 : LVDS RX	
IC21100 : Genx8 (SYSTEM MPU)	IC29500 : FPGA (Discharge Control)
	IC29003 : Genx7 (Panel Micom)

Signal Processing Circuit (4)

<PCB Function>

TH-P54Z1W

[Tuner box]

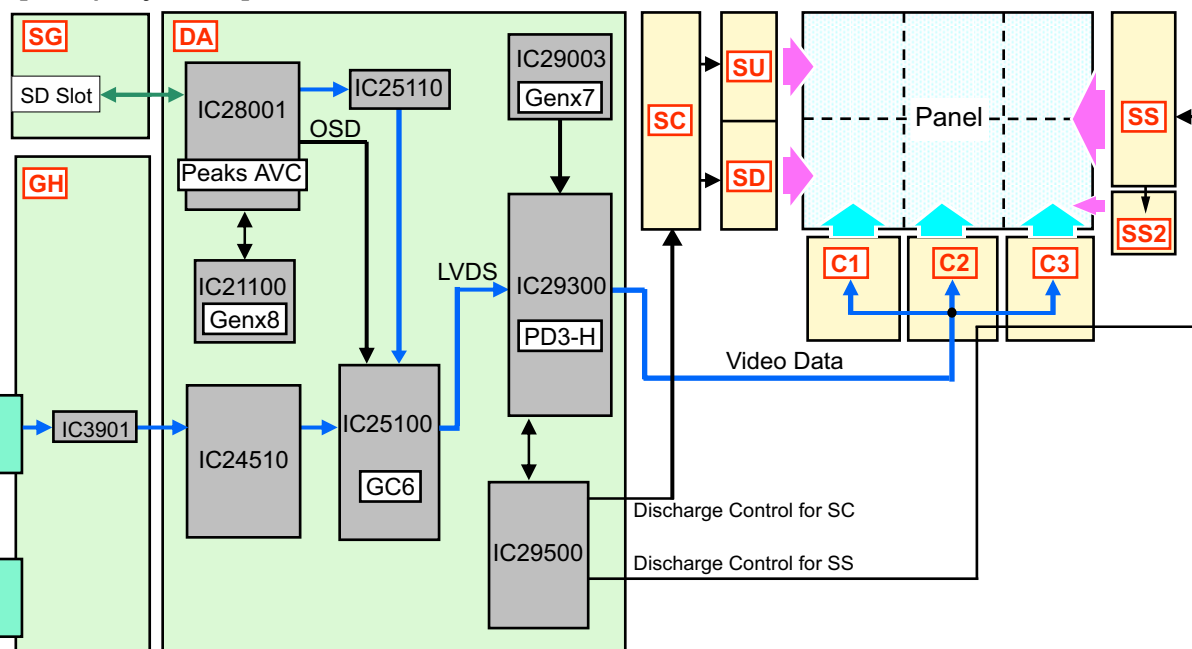


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graph TD
    DH[DH] --- Bus
    Bus --> IC9401[IC9401]
    IC9401 --> IC9005[IC9005]
    IC9005 --> IC9004[IC9004]
    IC9004 --> Bus

```

[Display unit]



IC3001	IC4510	IC9401
: Video Switch	: HDMI I/F, 10bit A/D	: LVDS RX
IC3801	IC8001	IC9005
: HDMI EQUALIZER	: Peaks AVC (MAIN MPU+Video Processor)	: KYOTO
IC7702	IC5200	IC9004
: SD-USB CONV.	: LVDS RX	: LVDS TX
IC8300	IC5100	
: DIGITAL DEMODULATOR	: GC6	
	[Video Processor IC (Format Converter)	
	[LVDS Transmitter	
	IC1100	
	: Genx8 (SYSTEM MPU)	

IC3901	IC29300
: HDMI EQUALIZER	: PD3-H
IC24510	LVDS Receiver, Sub Field Processor, Data Driver Processor Plasma AI
: HDMI I/F, 10bit A/D	
IC25100	
: GC6	
Video Processor IC (Format Converter)	IC29500
LVDS Transmitter	: FPGA (Discharge Control)
IC28001	IC29003
: Peaks AVC (Digital Video Processor)	: Genx7 (Panel Micom)
IC25110	
: LVDS RX	
IC21100	
: Genx8 (SYSTEM MPU)	

5. Troubleshooting (Z series)

5.Troubleshooting for picture trouble

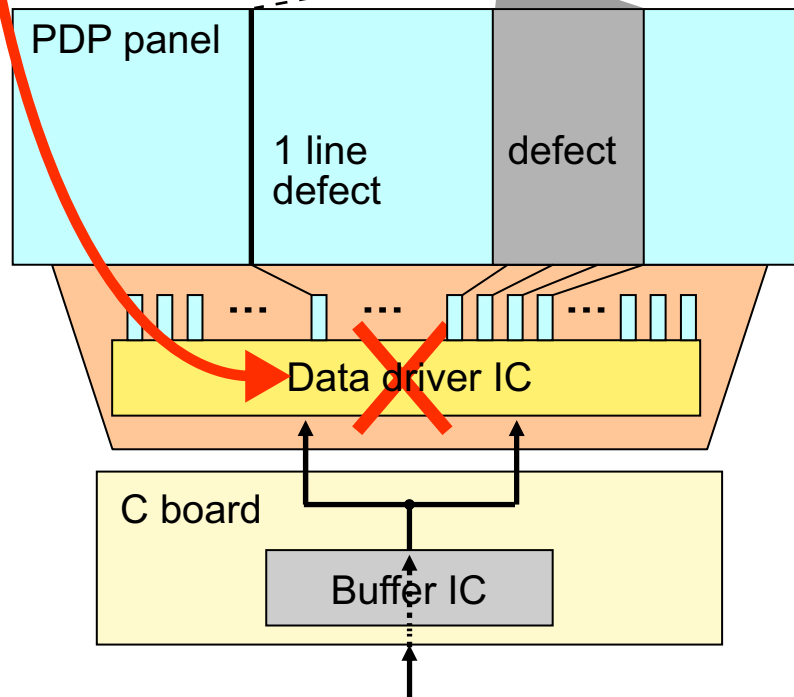
Picture trouble (diagnosis of vertical line)

PDP panel defective (Data driver IC defective)

Width is narrower than FPC

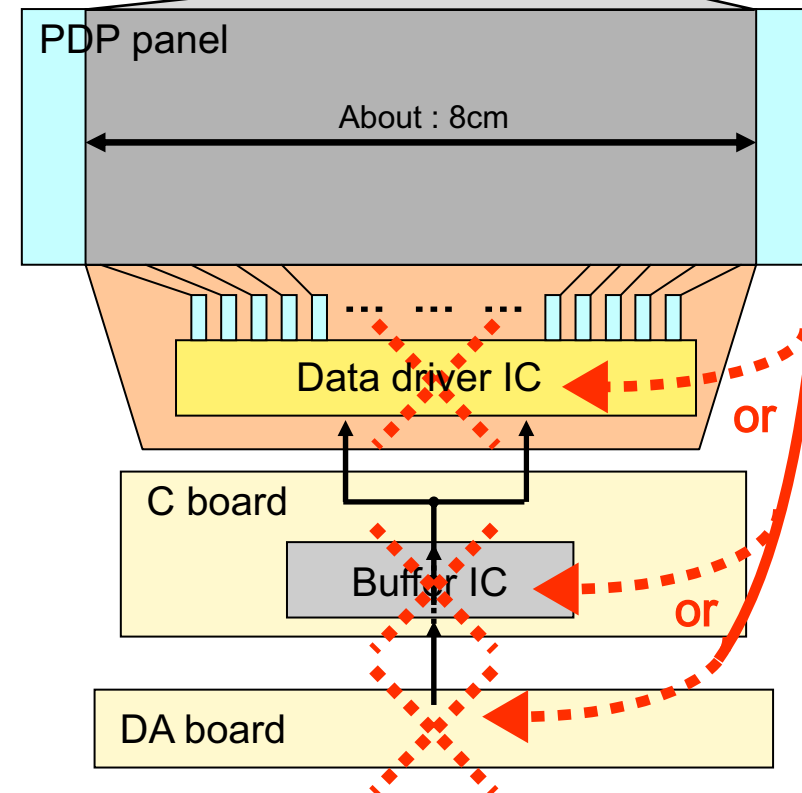


Data driver IC defect= PDP panel defect



Data driver IC or C or DA board defective

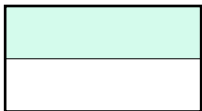
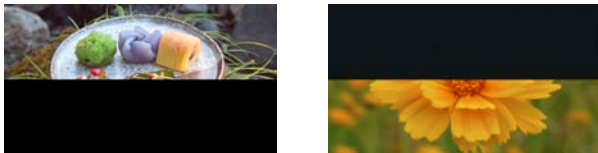
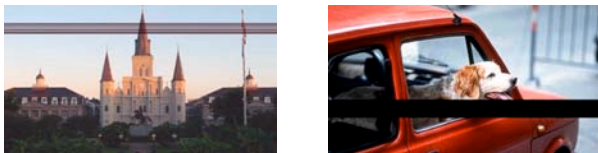
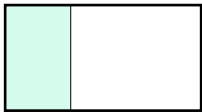
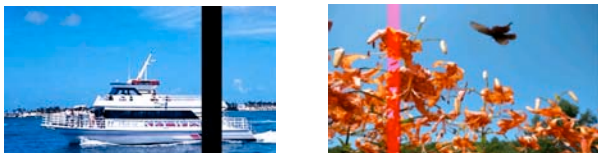
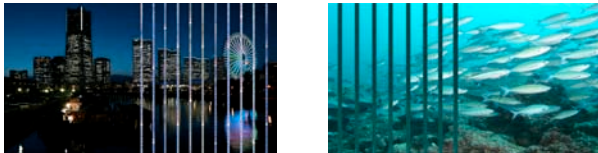
Width is same as FPC



5.Troubleshooting for picture trouble

Summary of picture trouble

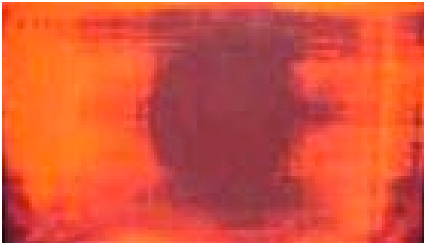
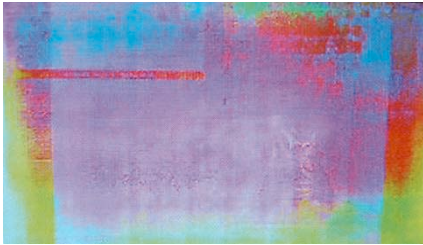
< Some part of screen >

Symptom	Actual symptom	Defective board
Trouble at Upper or Lower half 		SU / SD board
Horizontal line (Upper or Lower side) 		SU / SD board or PDP panel
Trouble at Left or Center or Right part 		C1-C3 board
Vertical line (Width is same as FPC) 		C or DA board or PDP panel
Vertical line (Width is narrower than FPC) 		PDP panel
Regular bar 		DA board

5.Troubleshooting for picture trouble

Summary of picture trouble

< All area of screen >

Symptom	Actual symptom		Defective board
Irregular Color			A or DA board
All vertical line			A or DA board
Abnormal electric discharge	 		SC / SS board

5.Troubleshooting for picture trouble

Diagnosis by Test Pattern (1/2)

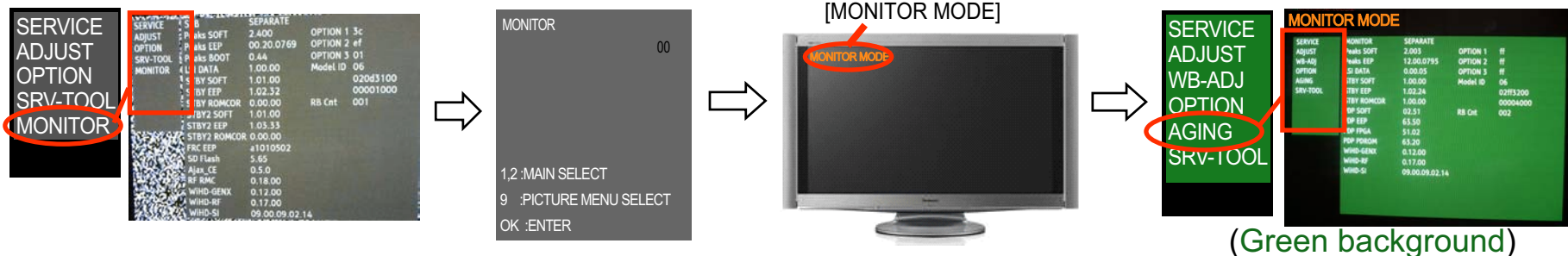
<Model> Full HD Models Z1 , Z10 series

<Symptom> Picture Noise, Full Vertical Line, abnormal color

<How to enter the Test Pattern>

Use **RF** Remote control. (TH-P54Z1A/Z , TH-P54Z10H)

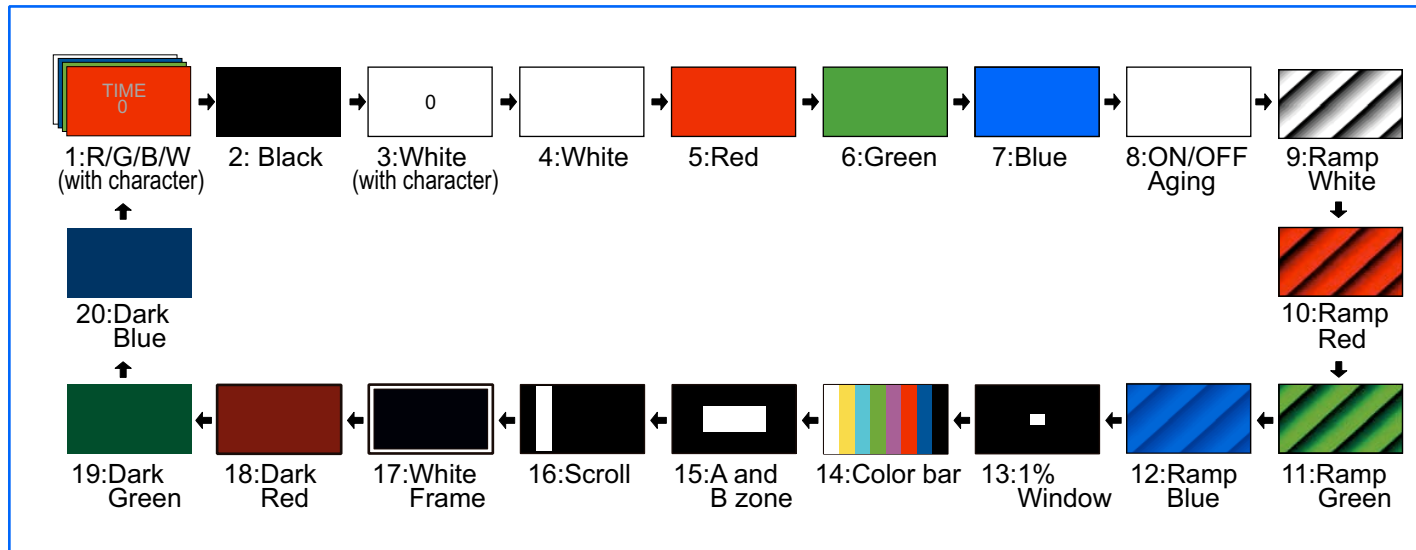
1. Press the **VOLUME [-]** button of Tuner box and push [**i**] or [**RECALL**] button of RF remote control 3 times within 2 seconds. - Service mode of Tuner box is displayed.
2. By 1 or 2 button, select [**MONITOR**] and press [**OK**] button.
3. [**MONITOR MODE**] will be displayed on the left-top of the screen and switch to service mode of Display unit is completed.
4. Press **VOLUME [-]** button of Display unit and push [**i**] or [**RECALL**] button of RF remote control 3 times within 2 seconds. - Service mode of Display unit is displayed. (Green background)
5. After this procedure, you can enter "Service Mode" and select "Aging", then "Test pattern" will appear.
6. Push "3" button of Remote Controller to select the test pattern mode to forward.
7. Push "4" button of Remote Controller to select the test pattern mode to reverse.



Use **IR** Remote control. (TH-P54Z1M/D/R/T/N/S/P/W)

1. Press the **VOLUME [-]** button of the Display unit and push [**i**] or [**RECALL**] button of IR remote control 3 times within 2 seconds.
 2. After this procedure, you can enter "Service Mode" and select "**Aging**", then "Test pattern" will appear.
 3. Push "3" button of Remote Controller to select the test pattern mode to forward.
 4. Push "4" button of Remote Controller to select the test pattern mode to reverse.
- (Next page)

<Test Pattern (Normal)>



<Diagnosis>

How to diagnose by using test pattern

Abnormal picture
(Picture Noise, Full Vertical Line, Abnormal color)

Test pattern (4-20)	Defective Block (Board)
Abnormal	Display unit (DA or C Board or Panel)
Normal	Tuner Box (A or DH Board)

<How to exit>

Disconnect the AC cord of the Tuner box and Display unit from the wall outlet.
(To power off both Tuner box and Display unit is necessary.)

6. Important information (Z series)

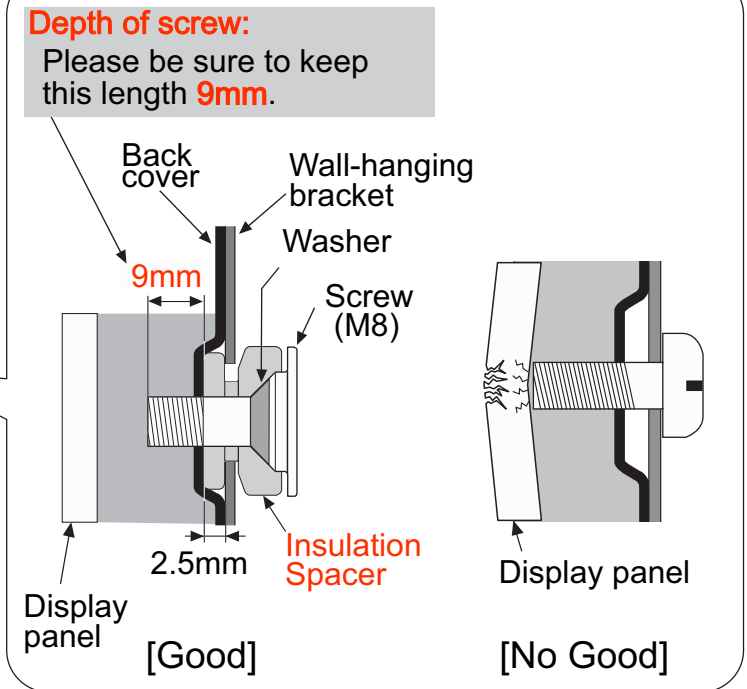
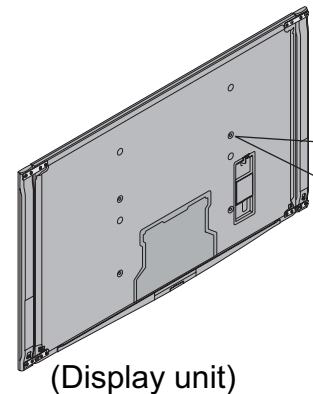
6.Important information

Wall-hanging bracket

WARNING

Use Panasonic's wall-hanging bracket, TY-WK5P1SW.
The Display unit may be damaged or fall down
if other wall-hanging bracket is used.

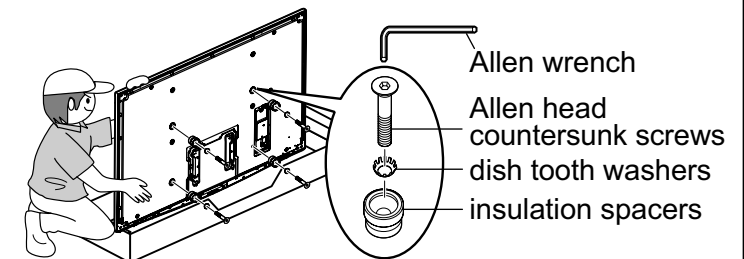
Damages caused by improper handling
will not be covered under the warranty.



NOTICE

To install Panasonic's wall-mounting bracket (TY-WK5P1SW) :

- 1) Use the supplied Allen wrench and mount the 4 Allen head countersunk screws, 4 dish tooth washers, and 4 insulation spacers provided at the locations where the caps were attached, as shown in right figure.
- 2) Tightening torque: 2.2 - 3 lb-ft (3 – 4 Nm).



How to tighten the screws

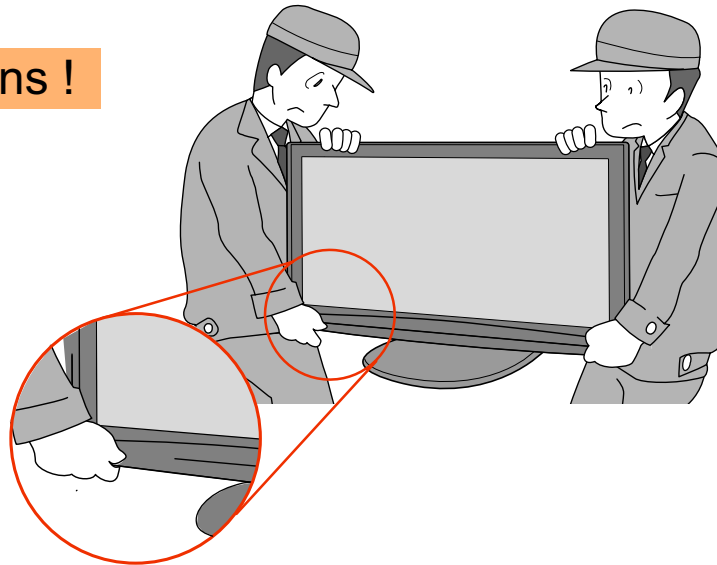
There is No front glass by the front glass-less construction.

1. Wound on the surface of display panel

By carefullness handling,
there is the possibility that the wound and dirt attach to display surface.

Pay attention to panel when installation, transportation and movement.

Handle with two persons !



2. Damage on the surface of display panel

By impact, there is the possibility that display surface is damaged.

Do not give impact on display surface.

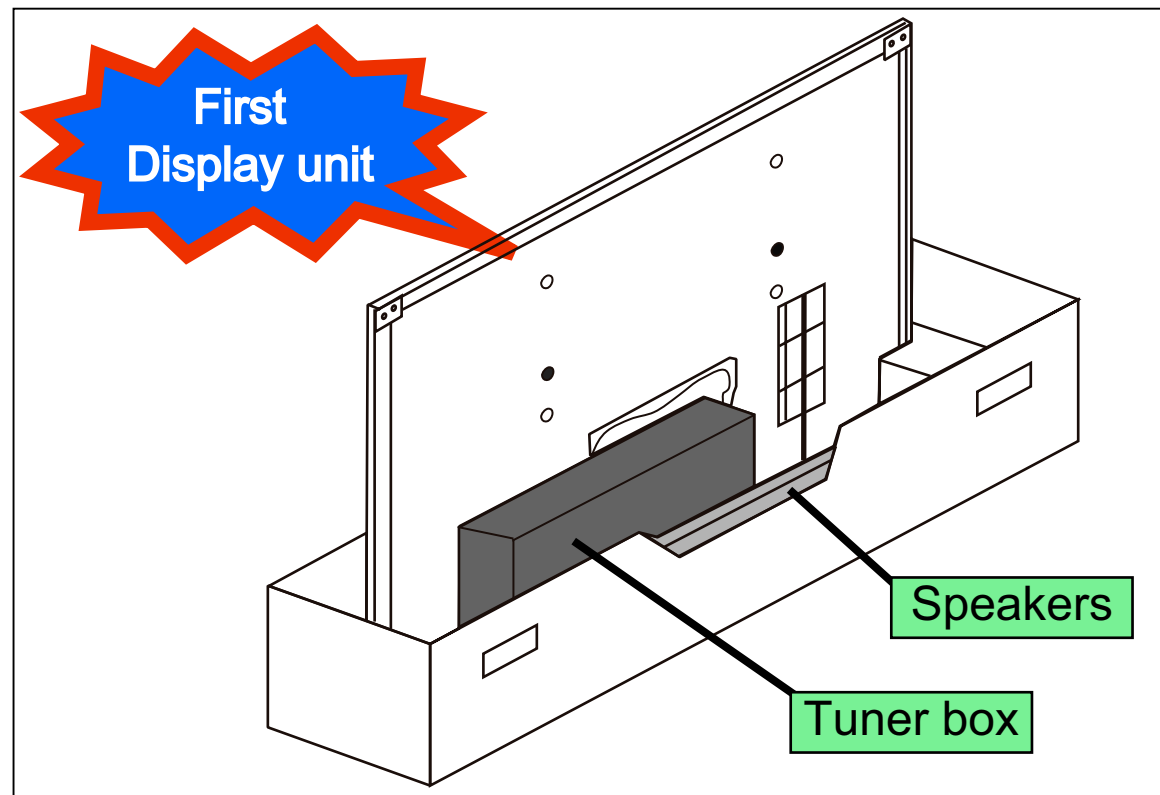
Display unit, tuner box and speakers are in the same box.

When opening box and taking out.

1. First, take display unit.

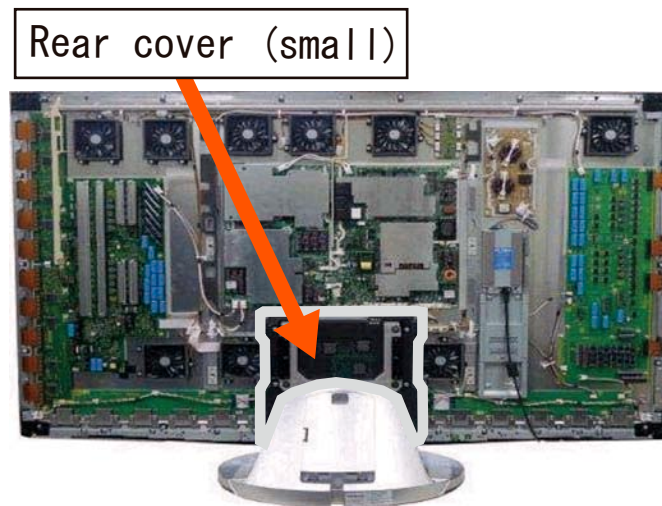
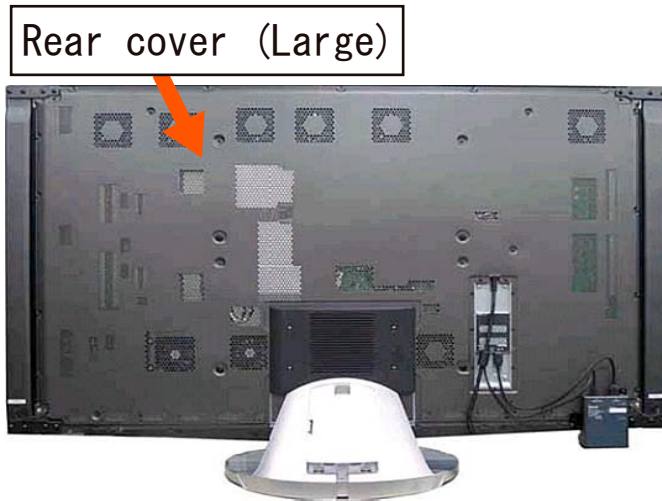
2. Next, take tuner box and speakers.

If speakers and tuner box are taken first, display will fall down.



6.Important information

Rear cover of this display unit is composed of 2 covers.



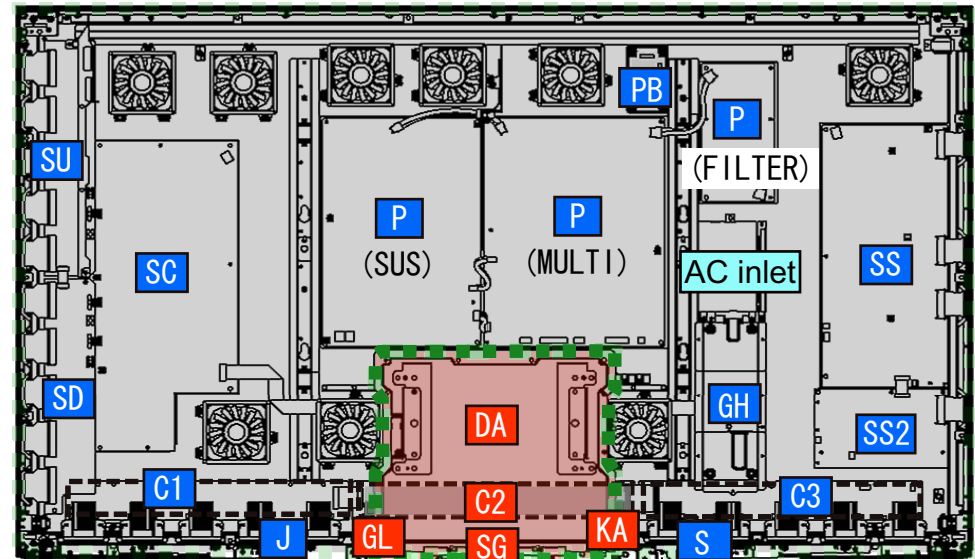
When removing panel module , both of large and small rear covers and wall-mounting bracket , lay soft cloth, lay display unit on it and work.

Rear cover

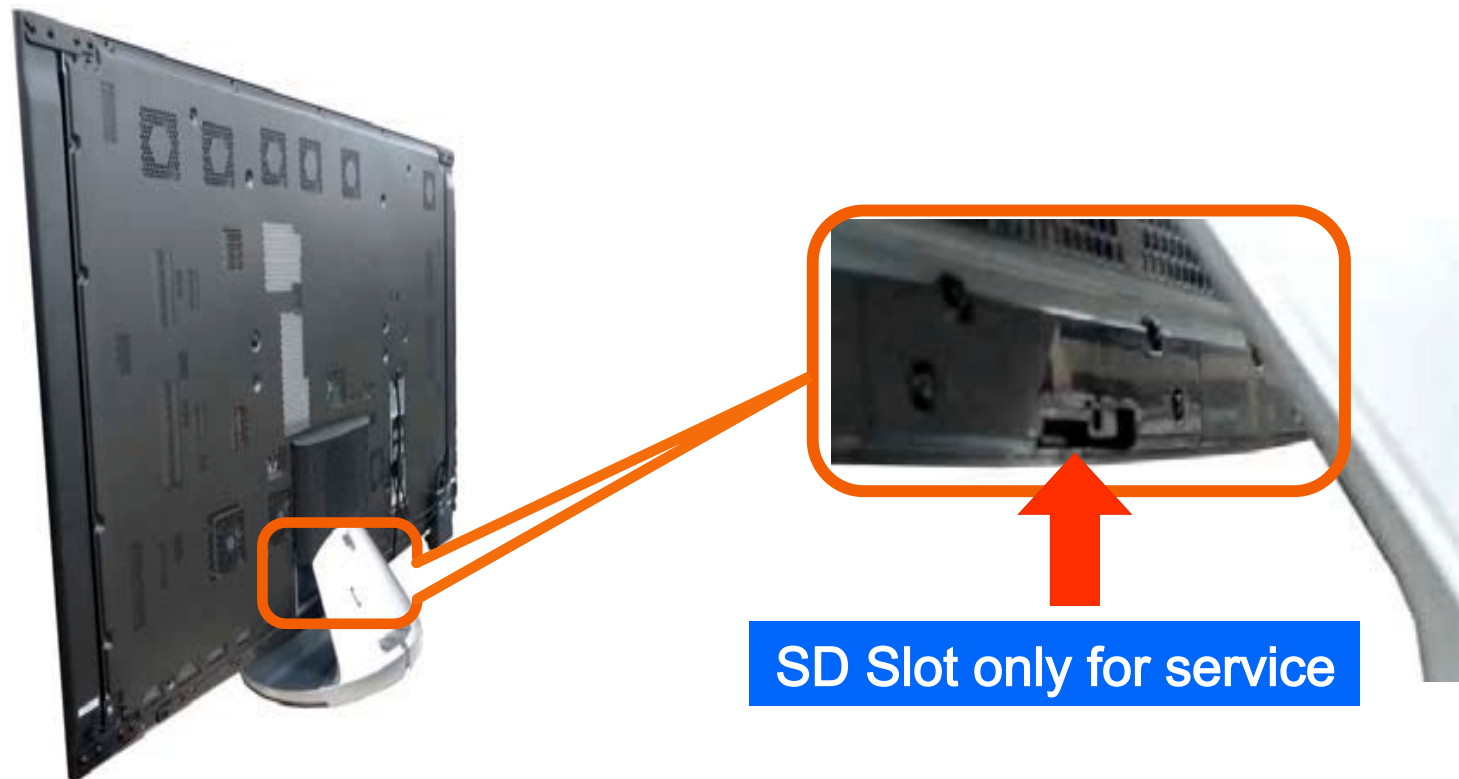
Number of rear cover depends on removing module.
See the following table.

Rear cover	Module
Remove the large rear cover only (with stand)	SC, SU, SS, SS2, SD, C1, C3, P, PB, GH, J, S, FAN, AC inlet (46inch: except SS2/added PS)
Remove the large rear cover and small rear cover (with laying on a floor)	PANEL, GL, DA, C2, KA, SG

<PCB Location>



At the back of Display unit, there is SD card slot for service.
Only for software version-up, this SD card slot is used.



This jig is useful for standing and holding the PDP unit securely in the case of servicing.

<Service jig>

Part No.	TZSA07019
Size	W : 28" (700mm), H : 38" (950mm), D : 24" (600mm)
Display Size	32" - 65"
Weight	about 5 kg



Only Service stand



Service stand with display unit

This is unusable for replacement of plasma panel and escutcheon.

Tuner box and display unit have their respective service mode.

<Tuner box>

1. How to enter into Service Mode

TH-P54Z1A/Z , TH-P54Z10H : Use **RF** Remote control
 TH-P54Z1M/D/R/T/N/S/P/W : Use **IR** Remote control

While pressing VOLUME [-] button of tuner box, press [**i**] or [**RECALL**] button of the remote control 3 times within 2 seconds.

Display screen

Software version

Picture adjustment

Option setting

Service tool

Monitor

SERVICE	STB	SEPARATE	
ADJUST	Peaks SOFT	****	OPTION 1 **
OPTION	Peaks EEP	* * *	OPTION 2 **
SRV-TOOL	Peaks BOOT	* * *	OPTION 3 **
MONITOR	LSI DATA	* * * *	Model ID **
	STBY SOFT	* * * *	*****
	STBY EEP	* * * *	*****
	STBY ROMCOR	* * * *	RB Cnt 000
	STBY2 SOFT	* * * *	
	STBY2 EEP	* * * *	
	STBY2 ROMCOR	* * * *	
	FRC EEP	*****	
	SD Flash	* * *	
	Ajax CE	* * *	
	RF RMC	* * * *	
	WiHD-GENX	* * * *	
	WiHD-RF	* * * *	
	WiHD-SI	** * * * *	

Key command

“1” button --- Main items Selection in forward direction
 “2” button --- Main items Selection in reverse direction
 “3” button --- Sub items Selection in forward direction
 “4” button --- Sub items Selection in reverse direction
 “VOL” button --- Value of sub items change in forward direction (+), in reverse direction (-).

2. How to exit : Disconnect the AC cord of tuner box and display unit from the wall outlet.

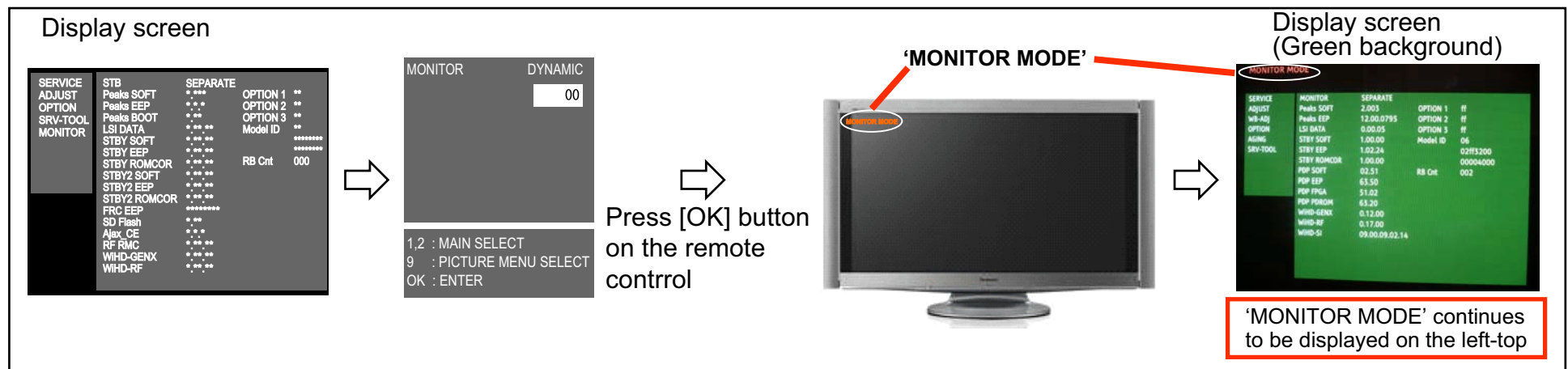
<Display unit>

In case of TH-P54Z1A/Z and TH-P54Z10H, Only tuner box has a receiver for RF remote control.
In case of TH-P54Z1M/D/R/T/N/S/P/W, IR remote receiver is installed in display unit.

The function to switch to the service mode of display unit is added to that of tuner box so that remote control is available to use service mode of display unit.

1. How to enter into Service Mode

- 1) While pressing VOLUME [-] button of tuner box, press [i] or [RECALL] button of the remote control 3 times within 2 seconds. Service mode of tuner box is displayed.
- 2) By [1] or [2] button, select [MONITOR] and press [OK] button.
- 3) [MONITOR MODE] will be displayed on the left-top of the screen and switch to service mode of display unit is completed.
- 4) While pressing VOLUME [-] button of display unit, press [i] or [RECALL] button of the remote control 3 times within 2 seconds.
Service mode of display unit is displayed. (Green background)



2. How to exit : Disconnect the AC cord of the tuner box and display unit from the wall outlet.
(To power off both tuner box and display unit is necessary.)

<Display unit (Single mode)>

IR remote receiver is installed in display unit.

Service mode of display unit can be displayed by using IR remote control.

1. How to enter into Service Mode (Use IR Remote control)

While pressing VOLUME [-] button of display unit, press [i] or [RECALL] button of IR remote control 3 times within 2 seconds.

Service mode of display unit is displayed. (Green background)

Display screen
(Green background)

SERVICE	MONITOR	STAND ALONE	OPTION 1	**
ADJUST	Peaks SOFT	*	OPTION 2	**
WB-ADJ	Peaks EEP	**	OPTION 3	**
OPTION	Peaks BOOT	***	Model ID	**
AGING	LSI DATA	****		
SRV-TOOL	STBY SOFT	*****		
	STBY EEP	*****		
	STBY ROMCOR	*****	RB Cnt	000
	PDP SOFT	*****		
	PDP EEP	*****		
	PDP FPGA	*****		
	PDP PDRAM	*****		
	WiHD-GENX	*****		
	WiHD-RF	*****		
	WiHD-SI	*****		

**STAND ALONE
or
SEPARATE**

When 'DIGA' is connected,
'STAND ALONE' is displayed.

When 'Tuner box' is connected,
'SEPARATE' is displayed.

When 'no equipment' is connected,
'SEPARATE' is displayed.

'MONITOR MODE' is NOT displayed on the left-top of the screen.

2. How to exit : Disconnect the AC cord of display unit from the wall outlet or Power switch Off.

<Tuner Box>

1. How to access

TH-P54Z1A/Z , TH-P54Z10H : Use RF Remote control
 TH-P54Z1M/D/R/T/N/S/P/W : Use IR Remote control

Self check indication only :

Press volume [-] button of tuner box and [OK] button of the remote control at the same time for more than 3 seconds.

Self check indication and factory shipping setting :

Press volume [-] button of tuner box and [MENU] button of the remote control at the same time for more than 3 seconds.

2. Display screen

54FHD UNIT		Panasonic 2009STB	
SELF CHECK COMPLETE			
ADV	OK	PEAKS-SOFT	0.a68
ADAV	OK	PEAKS-EEP	00.10.0777
TUN	OK	BOOT ROM	0.43
GENX	OK	GENX-SOFT	1.01.00
MEM1	OK	GENX-EEP	1.01.51
MEM2	OK	GENX-ROMCORR	0.00.00
AVSW	OK	GENX2-SOFT	1.00.00
GC3FS	OK	GENX2-EEP	1.00.51
OFDM	OK	GENX2-ROMCORR	0.00.00
TEMP	OK	FRC-EEP	a1010502
FRC	OK	SD FLASH	5.65
GC6	OK	RF-RMC	0.18.00
VIF	OK		
USB	OK		
GENX2	OK		
KYOTO	OK		
HDMI-TX	OK		
RF-RMC	OK		
		SUM	6259
		SUM-RFM	9667
		MODEL ID	06
			024f3100
			00004000
		EDID	e1 2b1b0bfb

6.Important information

Self Check (2/5)

<Tuner Box>

3. Check Point [1]

TH-P54Z1A/Z

Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC4510	ADV7470(ADV7496)	A-Board
ADAV	IC4510	SDV7470(ADAV4622)	A-Board
TUN	TU2901	TUNER	A-Board
GENX	IC1100	SYSTEM MPU	A-Board
MEM1	IC1101	EEPROM (SYSTEM MPU)	A-Board
MEM2	IC8502	EEPROM (Peaks)	A-Board
AVSW	IC3001	AUDIO/VIDEO SW	A-Board
GC3FS	IC4001	GC3FS	A-Board
OFDM	IC8301	OFDM	A-Board
TEMP	IC4701	TEMP SENSPR	A-Board
FRC	IC2600	FRAME RATE CONVERTER	A-Board
GC6	IC5100	GC6	A-Board
VIF	TU2901	TUNER	A-Board
LAN	IC8503	LAN I/F	A-Board
USB	IC7702	SD USB	GS-Board
2nd FE	TU6801	2nd FRONT END	XS-Board
GENX2	IC1500	SYSTEM MPU CEC	A-Board
KYOTO	IC9005	KYOTO	DH-Board
HDMITx	IC9004	HDMI Tx	DH-Board
RERMC	IC7002	RF REMOTE CONTROL	RM-Board

TH-P54Z1M/D/R/T/N/S/P

Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC4510	ADV7470(ADV7496)	A-Board
ADAV	IC4510	SDV7470(ADAV4622)	A-Board
TUN	TU2901	TUNER	A-Board
GENX	IC1100	SYSTEM MOU	A-Board
MEM1	IC1101	EEPROM (SYSTEM MPU)	A-Board
MEM2	IC8502	EEPROM (Peaks)	A-Board
AVSW	IC3001	AUDIO/VIDEO SW	A-Board
GC3FS	IC4001	GC3FS	A-Board
TEMP	IC4701	TEMP SENSPR	A-Board
FRC	IC2600	FRAME RATE CONVERTER	A-Board
GC6	IC5100	GC6	A-Board
VIF	TU2901	TUNER	A-Board
LAN	IC8503	LAN I/F	A-Board
USB	IC7702	SD USB	GS-Board
GENX2	IC1500	SYSTEM MPU CEC	A-Board
KYOTO	IC9005	KYOTO	DH-Board
HDMITx	IC9004	HDMI Tx	DH-Board

<Tuner Box>

3. Check Point [2]

TH-P54Z10H

Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC4510	ADV7470(ADV7496)	A-Board
ADAV	IC4510	SDV7470(ADAV4622)	A-Board
TUN	TU2901	TUNER	A-Board
GENX	IC1100	SYSTEM MPU	A-Board
MEM1	IC1101	EEPROM (SYSTEM MPU)	A-Board
MEM2	IC8502	EEPROM (Peaks)	A-Board
AVSW	IC3001	AUDIO/VIDEO SW	A-Board
GC3FS	IC4001	GC3FS	A-Board
TEMP	IC4701	TEMP SENSPR	A-Board
FRC	IC2600	FRAME RATE CONVERTER	A-Board
GC6	IC5100	GC6	A-Board
VIF	TU2901	TUNER	A-Board
LAN	IC8503	LAN I/F	A-Board
USB	IC7702	SD USB	GS-Board
2nd FE	TU6801	2nd FRONT END	XS-Board
GENX2	IC1500	SYSTEM MPU CEC	A-Board
KYOTO	IC9005	KYOTO	DH-Board
HDMITx	IC9004	HDMI Tx	DH-Board
RERMC	IC7002	RF REMOTE CONTROL	RM-Board

TH-P54Z1W

Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
PEAKS	IC8001	PEAKS AVC	A-Board
TUN1	TU8300	TUNER (PLL block)	A-Board
TUN2	TU8300	TUNER (MTS block)	A-Board
FE	IC8300	FRONT END PROCESSOR	A-Board
AVSW	IC3001	AUDIO/VIDEO SW	A-Board
ADV	IC4510	ADV7470(ADV7496)	A-Board
ADAV	IC4510	SDV7470(ADAV4622)	A-Board
GENX	IC1100	SYSTEM MPU	A-Board
MEM1	IC1101	EEPROM (SYSTEM MPU)	A-Board
MEM2	IC8502	EEPROM (Peaks)	A-Board
MEM3	IC1501	EEPROM (CEC)	A-Board
TEMP	IC4701	TEMP SENSPR	A-Board
GC6	IC5100	GC6	A-Board
GENX2	IC1500	SYSTEM MPU CEC	A-Board
KYOTO	IC9005	KYOTO	DH-Board
HDMITx	IC9004	HDMI Tx	DH-Board
RFRMC	IC7002	RF REMOTE CONTROL	RM-Board

4. How to exit : Disconnect the AC cord of display unit from the wall outlet.

<Display unit>

TH-P54Z1A/Z , TH-P54Z10H : Use **RF** Remote control
 TH-P54Z1M/D/R/T/N/S/P/W : Use **IR** Remote control

[After setting to Monitor Mode (Please refer to page 34.)]

1. How to access Self check indication only:

Press volume [-] button of tuner box and [**OK**] button of the remote control at the same time for more than 3 seconds.

Self check indication and factory shipping setting:

Press volume [-] button of tuner box and [**MENU**] button of the remote control at the same time for more than 3 seconds.

2. Screen display & Check Point

Display screen (Green background)



Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC24510	ADV7471(ADV7496)	DA-Board
ADAV	IC24510	ADV7471(ADAV4622)	DA-Board
GenX	IC21100	SYSTEM MPU	DA-Board
MEM1	IC21101	EEPROM (SYSTEM MPU)	DA-Board
MEM2	IC29001	EEPROM (Peaks)	DA-Board
PANEL	IC29003	PANEL MICOM	DA-Board
TEMP	IC21000	TEMP SENSOR	DA-Board
GC6	IC25100	GC6	DA-Board
TEMP2	IC7900	TEMP SENSOR	SG-Board

3. How to exit : Disconnect the AC cord of display unit from the wall outlet.

<Display unit (Single mode)>

When there is picture problem, information from tuner unit is not displayed.
At that time, by using IR remote control, self check of display unit can be done.

1. How to access

Z1 / Z10 series : Use IR Remote control

(Display unit unique mode):

Press volume [-] button of display unit and [OK] or [MENU] button of IR remote control at the same time, then self check (green color) is displayed. (MONITOR is not shown at left top.)

2. Screen display & Check Point

Display screen (Green background)



Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC24510	ADV7471(ADV7496)	DA-Board
ADAV	IC24510	ADV7471(ADAV4622)	DA-Board
GenX	IC21100	SYSTEM MPU	DA-Board
MEM1	IC21101	EEPROM (SYSTEM MPU)	DA-Board
MEM2	IC29001	EEPROM (Peaks)	DA-Board
PANEL	IC29003	PANEL MICOM	DA-Board
TEMP	IC21000	TEMP SENSOR	DA-Board
GC6	IC25100	GC6	DA-Board
TEMP2	IC7900	TEMP SENSOR	SG-Board

3. How to exit : Disconnect the AC cord of display unit from the wall outlet.

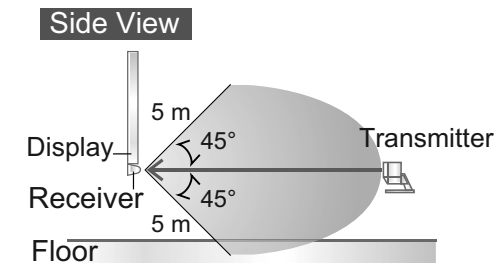
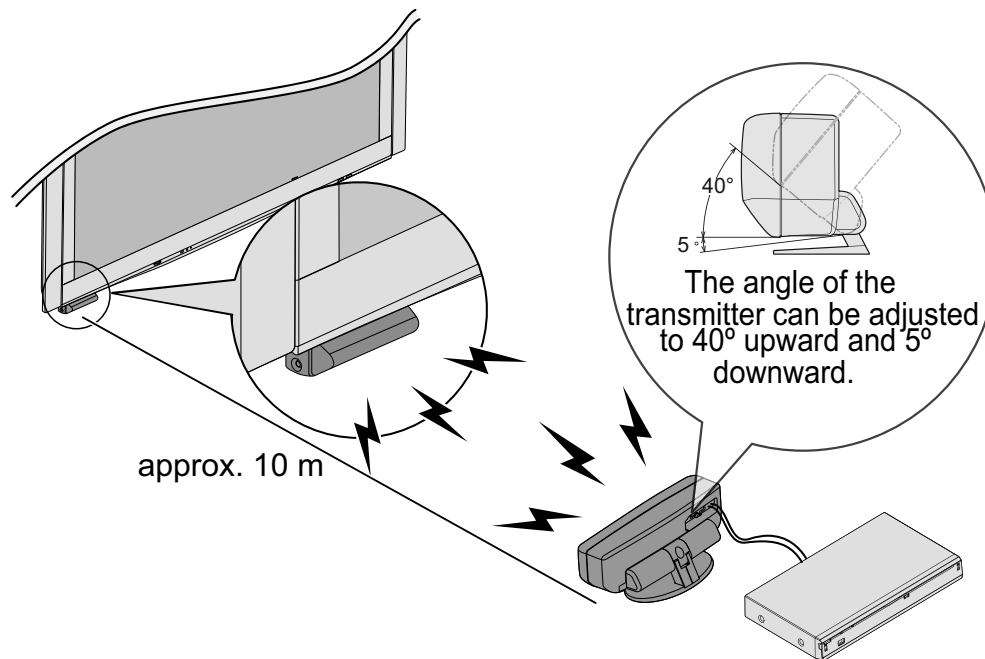
6.Important information

Precautions for Wireless Unit

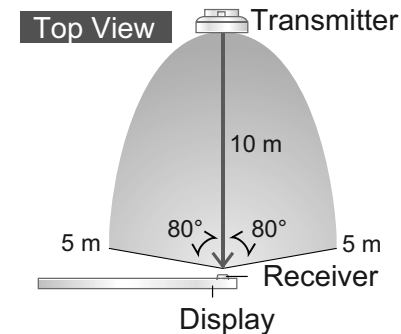
<Transmission Range>

Use the Wireless Unit (Transmitter) within a straight line distance of 10 m (approx.) from the Wireless Unit (Receiver).

The range may be shortened if there are any obstacles or the surrounding environment or building structure affects the transmission.



[Vertical Direction]



[Horizontal Direction]

<DO not install the following places>

High temperature location (near the heater etc)

Poor air circulation place (at the end of a closed rack etc)

<When the wireless connection becomes off>

When the wireless connection between transmitter and receiver becomes OFF, error message (like below) will appear.

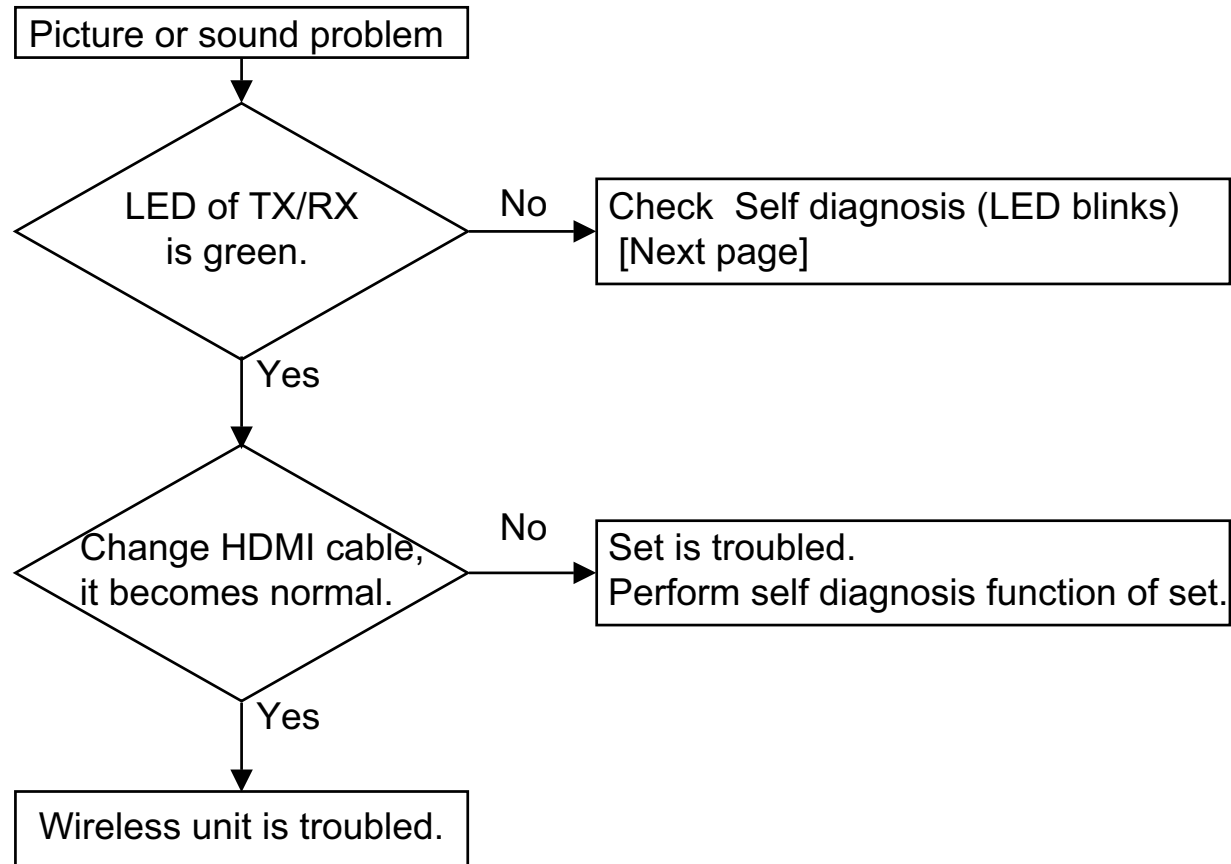
Check the connection between transmitter and receiver.

No signal from tuner unit.

Please check the connection between
tuner unit and monitor.

<When Full HD wireless unit is connected>

This is the flow for troubleshooting of wireless unit.



LED Signal

TX unit

Red



Green



RX unit

Red



Green



<Self check for wireless unit>

※Please confirm the connection state of a cable connected between Tuner and Display before this confirmation.

LED Signal		Content	Symptom	Action
RX unit	TX unit			
Green	Green	OK	Normal	
Orange	Orange	Weak signals	Low picture quality /Block Noise	Confirm the installed situation. The WiHD unit is made to meet in the short distance (about 1- 3m), and confirm whether symptom returns normally.
Red	Red	Breaking or Failures	Picture stop	Confirm the setting situation. If symptom does not recover, exchange RX and TX unit same time.
Red	Red	Failures	Intermittent picture stop (black out). It recovers between 10 second and three minutes and repeat a symptom.	Exchange WiHD unit.
Black (No signal)	Red	A picture breaks off	Intermittent picture stop (black out). It recovers between 10 second and three minutes and repeat a symptom.	Exchange WiHD unit.
Red blinking 11times	Red	Failures (RX unit Fan)	Picture stop	Exchange Fan in RX unit
Red	Red blinking 11times	Failures (TX unit Fan)	Picture stop	Exchange Fan in TX unit
Red	Red blinking 2 times	Pairing problem	Picture stop	Confirm whether the radio waves of 60GHz belt is used near. If it is used, remove the transmitter machine. If it is not used, it is trouble of WiHD unit. Exchange WiHD unit.
Red	Red blinking 5 times	Failures of IC in TX	Picture stop	Exchange WiHD unit.
Red blinking 5 times	Red	Failures of IC in RX	Picture stop	Exchange WiHD unit.

6.Important information

Exchange of the modules

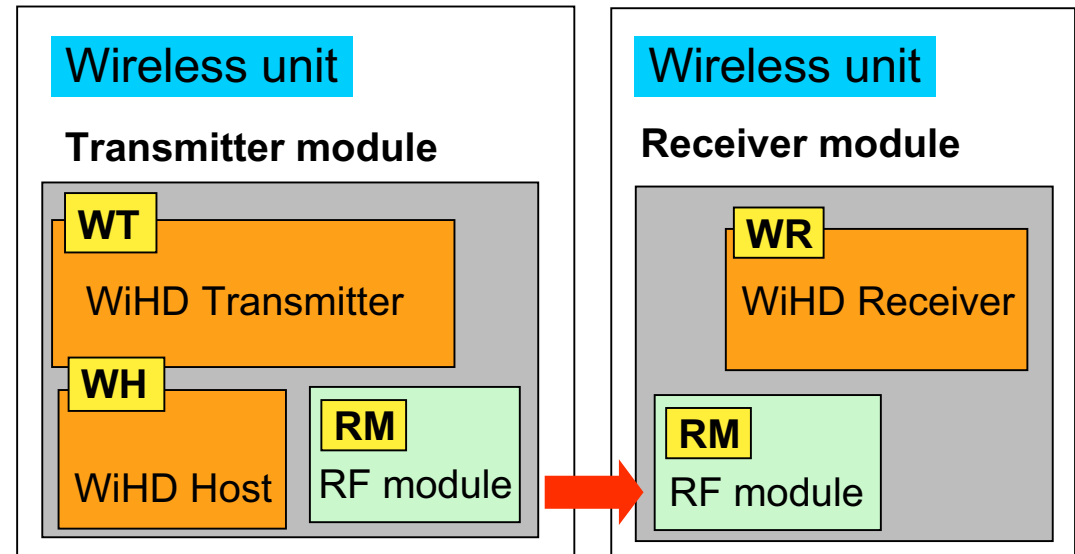
<Exchange of Transmitter/Receiver module and RF remote control module>

WT board (in a transmitter),
WH board (in a transmitter)
and WR board (in a receiver) should be
exchanged at the same time,
because these boards are initialized security
settings in a factory in order to obey
a copy protection.

These three boards should be done by
replacing complete unit pair
(Part No.TZTWH01JSUAT:for TH-P54Z1A/Z)



After replacing, pairing is necessary.



[How to re-pairing]

1. After replacing, connect 'Transmitter' and 'Receiver' to 'Tuner box' and 'Display unit', respectively.
2. Power 'Tuner box' ON by the power button.
Power 'Display unit' ON by the power button.
'Transmitter' and 'Receiver' becomes ON.
3. Between 'Transmitter' and 'Receiver', HDMI connection is established. Picture appears.
4. Re-pairing between 'Transmitter' and 'Receiver' are done automatically.

<First registration after purchase>

To have Z model work, registration of RF remote control to the tuner box is required.

[How to register]

1. After power-on, a registration screen is displayed. (Fig.1)
2. Press [MENU] key on the tuner box.
3. Press the [OK] button and the [1] button on RF remote control simultaneously for at least 3 seconds. (Fig.2)

Note that registration may take 30 seconds.

4. When a screen of [Remote control registration completed] is displayed, press [OK] button and proceed to the next setting (Easy installation setting). (Fig.3)

The maximum numbers of RF remote controls to be registered is five.

- When registering an additional RF remote control exceeding five, to erase all the RF remote controls which were already registered is required.
- When erasing an RF remote control to be registered, all the registered ones are erased.
- Erasing only one to be registered is not allowed.

Fig.1

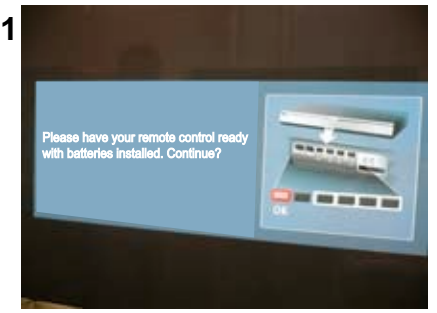


Fig.2

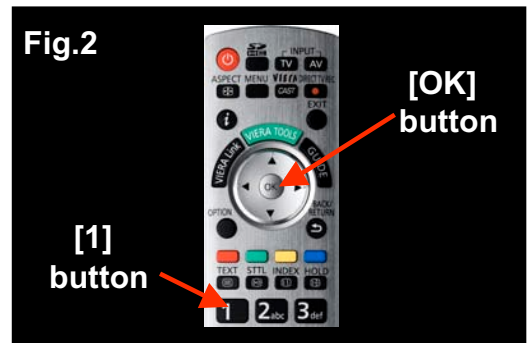
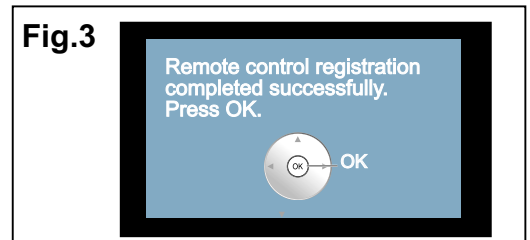


Fig.3



<Additional registration>

Additional RF remote control registration is required to start to use a new RF remote control because of failure etc.

Display “Remote control registration” by pressing MENU key of the tuner box for 5 seconds.

[How to register]

1. Select [Setup] by VOL [+] key of a tuner box and press [MENU] key.
2. [Remote control registration] should be selected. Press [MENU] key.
3. Press [MENU] key of a tuner box.
4. Press [OK] button and [1] button simultaneously for at least 3 seconds.

Note that registration may take 30 seconds.

5. When a screen of [registration completed] is displayed, press [Return] button to finish registration.

If you fail in a remote control registration

1. Power on the tuner box again (AC Plug in again or press [POWER] button for at least 5 seconds) and press [MENU] key on the tuner box for 5 seconds.
2. Then, please register again.

If an old battery is used, remote control registration would be unsuccessful.
Please use a new battery.

<RF remote control Usage Notes >

VIERA Link buttons

Because this remote control is RF remote control, it cannot send remote control code directly to DIGA like a conventional IR remote control.

VIERA Link buttons on RF remote control is effective only when VIERA Link-compatible DIGA is connected with HDMI.

TV operation keys on DIGA remote control

TV operation keys on a DIGA remote control, which is based on IR method, are effective without registration to the tuner unit.

A receiver for IR remote control is placed on a display unit.
Please point DIGA remote control at the display unit and operate.

Precautions for RF remote control

To prevent bad influence by interference of microwaves, use RF remote control keeping it away from the following equipments.

Microwave oven , Wireless LAN equipment , Bluetooth-compatible equipment
Equipments which use microwave of 2.4GHz band (Digital cordless phone,
Wireless audio equipment, Game machine, Personal computer peripherals)

7. Service Information

(1) CSP/BGA REPAIR PARAMETER SHEET

<For PDP Z series in 2009>

The following parameter is fundamental data.

Therefore, it will change according to the following factors and please adjust precise value with your environment and equipment .

1. Air-conditioner 2. Personal skill 3. Specification of Tools etc.

Tools for experiment Company : Hakko Co.,Ltd.
Model no. : Hakko852 / Hakko853

Applicable
model

*PDP Z series in 2009 year ;
The following ICs are used as common parts on several boards (PCBs) in models for all of the world. And the following parameter does not change depending on module (PCB).
Therefore, please check IC size and circuit No. of replacing IC and use an appropriate parameter as below.

					DISPLAY							TUNER				
	Type of Definition				FHD	FHD	FHD	FHD	FHD	FHD	FHD	FHD	FHD	FHD	FHD	
	Circuit No.				IC24510	IC25001&2	IC25100	IC28001	IC28002&3	IC29300	IC29302&3	IC4510	IC5001&2	IC5100	IC8001	IC8002&3
	IC size				19*19	8*12	31*31	31*31	8*12 or 10*12	35*35	8*12	19*19	8*12	31*31	31*31	8*12 or 10*12
	Profile No.				Profile2	Profile3	Profile4	Profile4	Profile3	Profile1	Profile3	Profile2	Profile3	Profile4	Profile4	Profile3
Kind of work	Item 1	Item 2	Item 3	unit												
Various set up	Initial set up	Nozzle Part No.		—	A1127B	A1126B	A1129B	A1129B	A1126B	A1203B	A1126B	A1127B	A1126B	A1129B	A1129B	A1126B
		Nozzle Size		—	19*19	15*15	31*31	31*31	15*15	35*35	15*15	19*19	15*15	31*31	31*31	15*15
		Height from nozzle to C.B.A.	Pre-heating	mm	30	30	40	40	30	40	30	30	30	40	40	30
			Main heating	mm	3	3	4	4	3	4	3	3	3	4	4	3
	Cool down		mm	3	3	40	40	3	40	3	3	3	40	40	3	
	Rough adjustment	Temperature	Upper side	deg	415	420	420	420	420	445	420	415	420	420	420	420
			Downer side	deg	230	235	235	235	235	235	235	230	235	235	235	235
		Blow level		l/min	12	12	20	20	12	22	12	12	12	20	20	12
		Heat time		s	180	210	240	240	210	240	210	180	210	240	240	210
	Fine adjustment	Temperature	Upper side	deg	375+5	360+5	370+5	370+5	360+5	370+5	360+5	375+5	360+5	370+5	370+5	360+5
Downer side			deg	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	
Repair work	Time control	Heat time	Pre-heating	s	140	155	180	180	155	180	155	140	155	180	180	155
			Main heating	s	40	55	60	60	55	60	55	40	55	60	60	55
		Cool down time		s	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30
Remark for each IC					Profile2	Profile3	Profile4	Profile4	Profile3	Profile1	Profile3	Profile2	Profile3	Profile4	Profile4	Profile3
Additional Information	1. If there are some parts (Crystal, capacitor, Tuner) near the target IC, cover them with heat-resistant tape.															